

GRADUATE BULLETIN

1991 - 1993

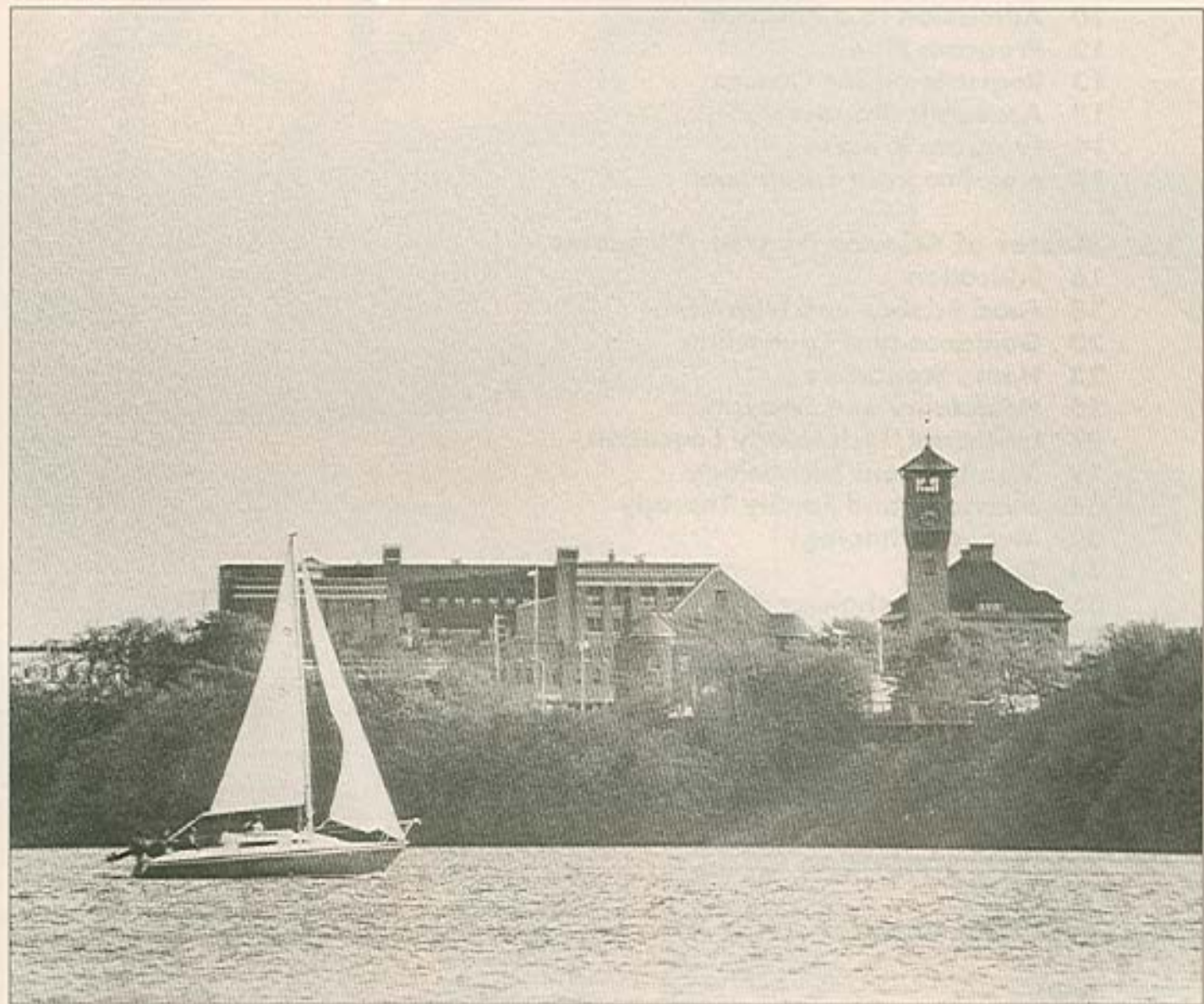
**University of Wisconsin-Stout
Menomonie, Wisconsin**



GRADUATE BULLETIN

1991-1993

**University of Wisconsin-Stout
Menomonie, Wisconsin**



An Equal Opportunity and Affirmative Action University

North Central Association
of Colleges and Secondary Schools

National Council for
Accreditation of Teacher Education

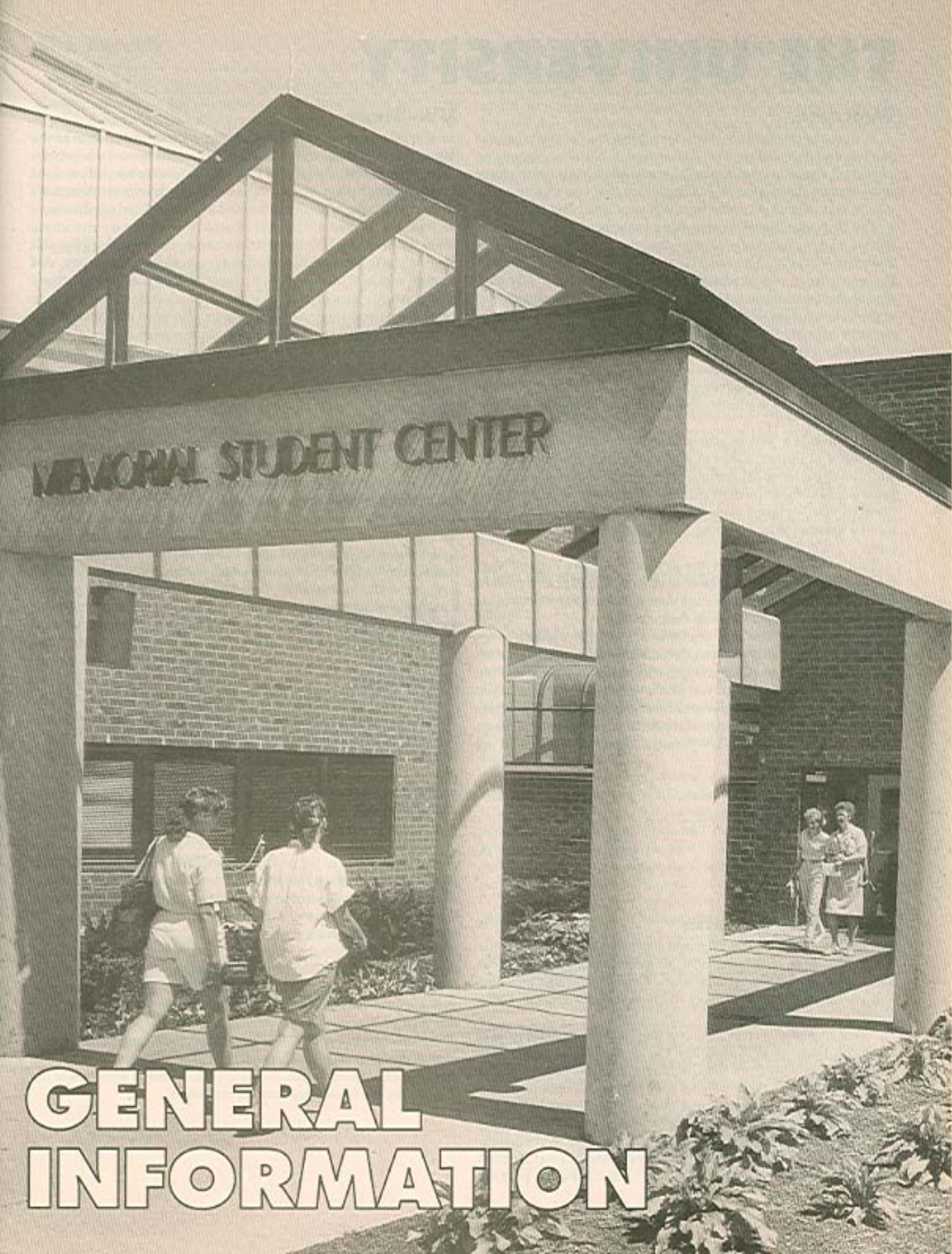
This bulletin was prepared according to the best information available as of August 1990. All information regarding fees, admission, graduation requirements and course offerings is subject to change.

Dedication

This Graduate Bulletin is dedicated to the late Dr. Nelva G. Runnalls, dean for Academic Development. She joined the faculty of the chemistry department in 1966, served as department chair from 1971-73, and then became dean of the graduate college. In 1988-89, she served as acting vice chancellor. Throughout her career at Stout, Dr. Runnalls was a strong advocate of graduate education and research. She died unexpectedly on March 5, 1989.

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**GENERAL
INFORMATION**

THE UNIVERSITY

Welcome

In opening this bulletin, you have taken the first step toward gaining an advanced degree. Choosing a graduate college is an important decision, one that will greatly affect your professional and personal development. It's important that you choose a university that offers a program to match your goals and interests.

The University of Wisconsin-Stout is a special mission university, with highly focused programs designed to meet societal needs in areas of education, human services, technology and management. Students who pursue graduate studies at UW-Stout already have some expertise in those areas. They come to the University with an appreciation for the importance of their profession and a desire to improve not only themselves, but their vocation.

UW-Stout is the second oldest graduate institution in the UW System. More than 7,000 students have graduated from UW-Stout's 13 master's degree programs and two education specialist programs since the institution began offering graduate programming in 1935.

If you decide to join us, you will be given opportunities not only to learn—but opportunities to apply what you have learned. In addition to professional studies, every program includes learning experiences in the immediate professional setting. As you progress through your program, you will work closely with faculty and receive assistance in planning your academic and professional goals.

That's the formal half of the program. As you expand your professional skills, you will grow in other ways. Your ideas will be challenged by students who share your general interests, but bring a different set of experiences to their studies.

Graduate programs and graduate schools differ greatly. I encourage you to look carefully at the bulletin and consider whether the purposes, philosophies and growth environment at UW-Stout coincide with your needs. If you find a program that interests you and want to learn more, please contact the appropriate program director. You may also write directly to the Graduate College, Room 417 Bowman Hall, UW-Stout, Menomonie, WI 54751 for more information.



Charles W. Sorensen
Chancellor

About This Bulletin

While this bulletin was prepared according to the best information available as of August 1990, all information regarding fees, admission, graduation requirements, names, telephone numbers, and course offerings, is subject to change. The Graduate Office number is 715/232-2211.

The information in this section of the Graduate Bulletin is based upon the graduate policies of the University of Wisconsin-Stout which are available from the Graduate Office. Students who can justify exception to those policies may request exception to those policies with a written request (*form 104-0132 available in the Graduate Office*) to the Committee on Exceptions to Graduate Policy. The form requires that the program director make a recommendation relative to the request. The committee meets on a regular basis. Notification of action on requests will be made by the program director.

UW-Stout

UW-Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1891 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by traditional curriculum. Since its founding, UW-Stout has gained a position of national and international leadership in industry, commerce, education and human services. Its programs in those fields are among the finest in the world. Strong programs in the areas of man's relation to technology, vocation and society have also been established. Although UW-Stout is a career-oriented university, its leaders have had the foresight to make the humanities and social sciences key parts of the total educational program.

Mission

UW-Stout makes a unique contribution to the University of Wisconsin System by concentrating its efforts in those higher education programs leading to professional careers in industry, commerce, education and human services through the study of technology, applied science, art, industrial management, human behavior and home economics. Concentration within these selected areas enables the University to develop and offer highly specialized instruction. Recognizing the interdependence of knowledge in all areas and the need to humanize, individualize and personalize all aspects of student life, the University seeks to complement its specialized education with broader learning experiences and opportunities essential for personal, professional, esthetic and social effectiveness.

Functions

UW-Stout and its faculty and staff serve three broad functions: instruction, service and research. As a part of the University, the Graduate College contributes to each function.

The University offers programs for the preparation of professional personnel in the schools and areas listed. Common to all programs is the development of competencies in applied research. Continuing education beyond the bachelor's level for other than degree purposes is also a part of the Graduate College function.

The service function involves consultation to education, business and industry in the areas of the mission of the University and its programs. Included also are such activities as sponsored workshops, publications, surveys and research, and participation as committee members and officers in appropriate local, state and national organizations.

Research and scholarship by the faculty and staff are encouraged to constantly add to the bodies of knowledge on which degree programs are based. Studies of teacher education problems, technological developments, curriculum development procedures, field surveys and experimental projects are reported in professional literature and to professional organizations. Consultation on research design is offered. Through the office of Research Promotion Services (410 Bowman Hall, 715/232-1126) research activities of the University are encouraged and coordinated.

The Faculty

UW-Stout has a specialized faculty comprised of individuals nationally and internationally recognized in their respective fields. Classes are taught and research projects coordinated by highly qualified professionals. The graduate faculty is composed of approximately 180 members. Of these, 150 hold earned doctorate degrees, while others hold specialized degrees in their respective fields. One of the fine traditions at UW-Stout has been the faculty and staff commitment to provide extra help in one-on-one situations to students.

Facilities

Modern and well-equipped facilities mark UW-Stout's 118-acre campus. Eight major classroom, laboratory and library facilities have been constructed or extensively remodeled since 1970. The facilities include the Home Economics Building, the Applied Arts Building, Jarvis Hall, Fryklund Hall, the Library Learning Center, Harvey Hall, Bowman Hall, Vocational Rehabilitation Institute, the Communication Technologies Building, the Communications Center and the Physical Education Building. Construction of the Memorial Student Center was completed in 1985, and it is now the hub of University activity.

The School of Industry and Technology has a total of 42 labs encompassing more than 130,000 square feet for technical work in computer aided manufacturing, composite materials, construction, electronics, graphic arts, packaging, industrial design, industrial graphics and plastics which are available for Management Technology, Industrial/Technology Education, and Vocational Education majors. The Communication Technologies Building, remodeled in 1987, provides laboratories for graphic arts and photography courses.

The Home Economics Building offers advanced research and laboratory facilities in fields of food science and nutrition, hotel and restaurant management, tourism, consumer education, fashion merchandising, textile and fashion design, child development and family life, and home economics education.

The Stout Vocational Rehabilitation Institute is a model facility. Research and practicum experience in work evaluation, placement services and professional assessments to clients referred by state agencies are among the many professional activities conducted by faculty and students.

A Counseling Center with videotape equipment is available for use in the Marriage and Family Therapy, Guidance and Counseling, and School Psychology programs.

Academic Year

UW-Stout's academic year is composed of two semesters. Each semester is further subdivided into two nine-week quarters. The student should recognize that the UW-Stout designation of a quarter represents only one-half a semester and should not be confused with the quarter system used at many other universities. Courses scheduled on the quarter basis meet twice as often each week as courses scheduled on the semester basis. Credit hours are awarded on a semester credit hour basis for courses scheduled on either basis. The normal maximum load for graduate students in a semester is 16 credits.

Summer Session Information

Each year, UW-Stout offers a summer session approximately 10 weeks in length. The regular eight-week summer session begins about the second week in June. A two-week pre-session may also be available. UW-Stout also offers courses within and before the regular eight-week session of varying lengths of time so that a combination of one, two, three or five week courses may be taken. Credits may be earned at the rate of one semester hour per week of attendance. This makes it possible to earn as many as 10 credits during a summer if attendance is for the entire 10-week summer session. Because of the large number of graduate students in attendance during the summer, many of the graduate level courses are offered each summer. The Summer Session Bulletin is published each April. It contains complete information about offerings, class schedules, enrollment procedures, degree programs and housing. A copy is available upon request to the director of Continuing Education/Extension and Summer Session (239 Vocational Rehabilitation Building, 715/232-2693).

Continuing Education

UW-Stout offers evening, Saturday and off-campus credit courses through the Continuing Education Office (239 Vocational Rehabilitation Building, 715/232-2693). Registration for these courses is completed at the first class meeting. Textbooks required for the class are made available for purchase at the first class meeting.

Course numbers, titles and content are the same as regular courses. To be awarded graduate credit for extension work, the student must have been admitted to the Graduate College.

The Graduate College

The Graduate College at UW-Stout is fully accredited by the North Central Association of Colleges and Secondary Schools (NCA) and the National Council for the Accreditation of Teacher Education (NCATE) to offer work at the master's (fifth year) and education specialist (sixth year) levels. The Marriage and Family Therapy program is accredited by the American Association of Marriage and Family Therapists.

Institutional memberships include the Midwest Association of Graduate Schools and the Council of Graduate Schools in the United States.

The Graduate College, a unit of the division of Academic Affairs, is responsible for graduate education in the University. The Graduate College administers graduate admissions, graduate assistantships, records, policies and other procedures relating to graduate students. The Graduate College includes, in addition to its administrative personnel, the Graduate Office, which provides services to graduate students and program directors.

The Graduate Council establishes Graduate Policy. The Graduate Committee and the Graduate Student Council provide advice to the Graduate Council. Membership on the Graduate Council includes all graduate program directors, two graduate faculty members elected from each school, the president of the Graduate Student Council, the associate dean for Graduate Studies and Curriculum, and the assistant vice chancellor for Graduate and Undergraduate Curriculum, who chairs the council. A representative of the Faculty Senate is invited to all council meetings. The work of the council is aided by a Graduate Committee, a Committee on Exceptions to Graduate Policy and other committees as needed.

The Graduate Student Council includes one student elected from each graduate program. The chair is elected by the group. In addition, during the summer term, the Graduate Student Club holds four informal meetings for graduate students and faculty.

Graduate Administration

Dr. Charles W. Sorensen, Chancellor
320 Administration Building, 715/232-2441
Dr. Edwin L. Biggerstaff, Interim Vice Chancellor
301 Administration Building, 715/232-2421
Dr. Robert Sedlak, Assistant Vice Chancellor
for Graduate and Undergraduate Curriculum
302 Administration Building, 715/232-2421

Graduate Programs and Directors

Master's Degrees

Education

Dr. Virginia Peter, Director
420 Education and Human Services Building, 715/232-1332

Food Science and Nutrition

Dr. Janice Timmer, Director
205 Home Economics Building, 715/232-2183

Guidance and Counseling

Dr. Calvin Stoudt, Interim Director
237F Harvey Hall, 715/232-1442

Home Economics

Dr. Judith Ann Rolland Herr, Director
109 Child and Family Study Center, 715/232-1478

Hospitality and Tourism

Dr. William Gartner, Director
118 Home Economics Building, 715/232-1281

Industrial/Technology Education

Dr. Lee Smalley, Director
418B Harvey Hall, 715/232-1484

Management Technology

Dr. Zenon Smolarek, Director
115 Technology Wing - Jarvis Hall, 715/232-1144

Marriage and Family Therapy

Dr. Charles Barnard, Director
Health Center, 715/232-2404

Media Technology

Dr. Roger Hartz, Director
150 Communication Technologies Building, 715/232-1202

Safety

Dr. John Olson, Director
205 Communications Center, 715/232-2604

School Psychology

Dr. Calvin Stoudt, Director
237F Harvey Hall, 715/232-1442

Vocational Education

Dr. Leonard Sterry, Interim Director
406 Harvey Hall, 715/232-1367

Vocational Rehabilitation

Ms. Shirley Stewart, Director
403 Education and Human Services Building, 715/232-2499

International Programs

UW-Stout has had and continues to maintain a major commitment to international programs and to international students. The University encourages the exchange of ideas and cultural differences among students, faculty and the local community. Many of UW-Stout's graduates have careers that require an understanding of people and cultures in the global community. Among UW-Stout's continuing thrusts—a part of our mission and thrust statement—is international activities: "All students need to know and understand their own and other cultures. With its long history of international involvement, UW-Stout recognizes that a broad understanding of other cultures requires concerted educational efforts. UW-Stout seeks to internationalize the educational environment, including the curriculum in both general education and professional courses." International students from more than 30 nations attend UW-Stout each year, with the largest groups from India, Saudi Arabia, Nigeria, Malaysia, Trinidad and Tobago. More than one-third of the international student body pursues graduate degrees at UW-Stout each year.

International programs and student activities are coordinated through the Office of International Programs (400 Bowman Hall, 715/232-1896). This office provides a service function to the university community by coordinating all overseas involvements, and providing overseas opportunities for students and staff. At the graduate level, the university has developed arrangements with the North East Wales Institute of Higher Education (*Wales, Great Britain*) in which international students complete a portion of their graduate studies at each institution. Selected graduate courses taken in the United Kingdom are reviewed by UW-Stout, upon recommendation by North East Wales Institute officials. Students may then receive advanced standing in the Master of Science in Education degree program at UW-Stout. They complete a minimum of one semester of residence work at UW-Stout, complete their thesis and are awarded the Master of Science in Education degree. A similar cooperative degree program is being developed with the Monterrey Institute of Technology in Mexico. Other arrangements are also being considered.

The special needs of international students are met through professional and referral services provided by the coordinator of International Student Services. These services include confidential personal counseling on immigration matters, financial problems, academic questions, social customs and personal concerns. Other services which promote cross-cultural understanding include new student orientation, host family arrangements, problem solving and liaison activities in the University and Menomonie area community.

Education Specialist's Degrees

Guidance and Counseling

Dr. Carlyle Gilbertson, Director
237B Harvey Hall, 715/232-2182

Industrial and Vocational Education

Dr. Leonard Sterry, Interim Director
406 Harvey Hall, 715/232-1367

FEES

Application Fee

The application fee for admission to a graduate program is \$20.

Enrollment Fees

Graduate fees are set by the University of Wisconsin Board of Regents and are subject to change. Fees for graduate students for the Fall semester 1990 were:

Credits	Wis. Resident	Minn. Resident	Non-Resident
9	\$1,081.90	\$1,035.90	\$3,275.90
9½	\$1,087.45	\$1,041.45	\$3,281.45
10	\$1,093.00	\$1,047.00	\$3,287.00
10½	\$1,098.55	\$1,052.55	\$3,292.55
11	\$1,104.10	\$1,058.10	\$3,298.10
11½	\$1,109.65	\$1,063.65	\$3,303.65
12	\$1,115.20	\$1,069.20	\$3,309.20

If you have questions, contact Jane Griffiths (126A Administration Building, 715/232-2349).

Resident Status

Adult students who have been bona fide residents of Wisconsin for 12 months immediately preceding the beginning of the term of enrollment at the University are considered to be resident students for tuition purposes.

Any minor or adult student who is a graduate of a Wisconsin high school and whose parents are bona fide residents of this state for 12 months preceding the beginning of the term of enrollment, or whose last surviving parent was a bona fide resident of the state for 12 months preceding death, are also considered to be residents.

In determining bona fide residence, intent to establish and maintain a permanent home in Wisconsin is determinative. The burden of proof is on the student but intent may be demonstrated or disproved by factors including, but not limited to, filing of Wisconsin income tax returns, possession of a Wisconsin operator's license, place of employment and self-support.

Non-resident members of the armed forces and persons engaged in alternative service who are stationed in Wisconsin for purposes other than education, their spouses and minor children, are also considered to be residents for tuition purposes during the period such persons are stationed in Wisconsin.

Part-time graduate students are those carrying fewer than nine credits during a semester, and those carrying fewer than six credits during the eight-week summer session.

Dual Level students (*eligible undergraduates carrying graduate work simultaneously*) pay the applicable undergraduate fee. Students are responsible for any expense—such as the printing of questionnaires and maps, typing, or thesis binding—incurred while conducting research.

Refunds for early withdrawal during a semester are:

First week	100%
Second week	80%
Third week	60%
Fourth week	40%
Fifth week	0%

In determining the withdrawal date, the University uses the date the student notifies the school of the withdrawal; or if the student fails to notify the school and is otherwise unable to verify date of withdrawal, the date of the request to refund will be used to determine the refund.

Students who enter military service by enlistment or otherwise shall receive a refund in accordance with the standard refund policy of the University. Other exceptions may be made upon approval of the chancellor or his designee and the designated Board of Regents representative.

Minnesota-Wisconsin Tuition Reciprocity Agreement

An agreement between the states of Wisconsin and Minnesota permits residents of either state to attend higher education institutions in the other state at the same tuition rate as their home state.

To be eligible under this agreement, a student must file an application prior to or during the term or semester in which he or she expects to first receive the waiver of the non-resident portion of tuition. Applications are available from the director of Student Business Services (116 Administration Building, 715/232-1657). A student is deemed to meet this application date requirement if his or her completed application is postmarked no later than the last day of scheduled classes. A term or semester is deemed to run through the last day of scheduled classes as published in the academic calendar of the institution. Neither the Minnesota Higher Education Coordinating Commission nor the University will be financially liable for students enrolled under the reciprocity agreement who have not received prior approval and certification by the Minnesota Higher Education Coordinating Commission, Suite 400, Capitol Square, 550 Cedar St., St. Paul, MN 55101.

Microfilming Fee

At the time the student files a copy of the research report with the Graduate Office, an \$11 fee is charged for the microfilming process.

Graduation Fee

Upon completion of 20 credits, candidates will be billed a one-time, non-refundable, graduation fee of \$30. This fee is for the diploma, diploma cover and other accessories used in commencement exercises. It does not cover the fees for cap and gown, which are available from the University Bookstore.

Special Course Fees

Many individual courses require special course fees. These are identified in the Course Schedule each semester and summer session.

GRADUATE ASSISTANTSHIPS

Graduate assistantships provide stipends in return for a designated amount of professional service. Graduate teaching assistantships provide stipends in return for time spent teaching a laboratory or discussion session. Assistantships range from one-eighth time to one-half time. The stipend for a one-third time assistantship for Fall 1990 is \$4,227. Graduate assistantships of one-third or more time may include a partial or full waiver of the non-resident portion of tuition. Non-resident tuition waivers are subject to availability of funds. Students with a waiver for two consecutive semesters may also receive the award of a tuition waiver for the regular summer session. A graduate assistant must carry a minimum of six credits per semester or three credits per summer session while on the assistantship. The maximum credit hour load may also be limited during the term of the assistantship. Graduate assistantships are controlled by the various departments/units and/or research grants of the University.

To become eligible for an assistantship, a student must be admitted to a graduate degree program (*dual-level students are not eligible*). Students who have made application for graduate assistantship, and have been admitted to the Graduate College, generally have the best opportunity to make their qualifications known to the various supervisors who employ graduate assistants. A list of assistantship positions available will be sent to eligible students who have filed an Application for Graduate Assistantship (*form 104-2130 available from the Graduate Office*) as soon as possible in the spring term for fall term employment. Early application is essential. It is the responsibility of the student to make contact with the supervisor indicated on the list, for more information on the positions and setting up an interview. The department offering the position makes a recommendation to the Graduate College concerning the graduate assistant to be hired. The Graduate College officially offers the position to the prospective applicant. An application is valid for one academic year.

Assistantships are normally filled on an academic year basis. The charts below indicate the hours of work required and credit load limitations for assistantships:

	Non-Teaching		Teaching		Lab Teaching	
	Hours per Week	Year	Credits per Sem.	Year	Credits per Sem.	Year
One-half time	20.0	640	6.0	12	14.0	28
One-third time	13.3	426	4.0	8	9.5	19
One-fourth time	10.0	320	3.0	6	7.0	14

The titles graduate program or project assistant designate a graduate student employed to assist with research, training or other academic programs or projects. The graduate assistant teaches in a classroom or laboratory in an instructional department.

Credit Load Per Semester

(A condition of employment)

Assistantship	Maximum Load	Minimum Load
One-half time	12	6
One-third time	13	6
One-fourth time	14	6

Special Minority Assistantships

Each year the Graduate College designates several assistantships which are to be awarded to beginning minority students. If you are a minority student and are interested in an assistantship, contact the Graduate Office for more information about Special Minority Student Assistantships (400 Bowman Hall, 715/232-2452).

FINANCIAL AID

The Financial Aid Office (210 Bowman Hall, 715/232-1363) administers financial aid funded primarily from state and federal resources. Applications are available in the Financial Aid Office and should be filed in the office by April 15, preceding the academic year, or March 1, preceding the summer session.

Aid received through the Financial Aid Office is based on need and enrollment status. All awards will be adjusted so as not to exceed the determined need. To be eligible, the student must be enrolled at least half time (*five credits per semester or three credits per Summer Session*) in a graduate degree program at Stout and must

maintain satisfactory academic progress.

All applicants must complete an ACT Family Financial Statement which is used to calculate financial need. The office awards aid in the form of grants, loans or work. Eligible students may receive one or a combination of these depending on a student's financial need.

Graduate students are expected to maintain satisfactory academic progress in order to retain enrollment status and financial aid eligibility. Refer to the Graduate Office for Progress Policies.

Types of Aid Available

Assistantship Connected Tuition Waivers are available to graduate students from states other than Wisconsin and Minnesota, who hold assistantships of one-third time or more. Eligible students may be awarded a partial or full waiver of the non-resident portion of tuition. Students with a waiver for two consecutive semesters may also receive a waiver for the regular summer session. Non-resident tuition waivers are subject to the availability of funds.

Advanced Opportunity Grants (AOP) are available to a limited number of minority and disadvantaged students. Preference is given to Wisconsin residents. The amount of the award varies but is generally the amount of resident fees. Applications are available in the Ethnic Services (206 Bowman Hall, 715/232-1096) and Financial Aid offices.

Stafford Loans are available through private lenders (*banks, savings and loan associations, and credit unions*). The maximum amount a graduate student may borrow is \$7,500 per academic year. The loan is interest free until six months after graduation, termination of university attendance or change in enrollment status to less than half-time (*five credits per semester or three credits per Summer Session*). Interest is charged during the repayment period, which is a maximum of 10 years.

Perkins Loans are available to graduate students if their primary source of borrowing as an undergraduate has been this program. The maximum amount that can be borrowed, including undergraduate work, is \$18,000. The loan is interest free until six months after graduation, termination of attendance or change in enrollment status to less than half-time (*five credits per semester or three credits per Summer Session*). Interest of 5 percent is charged during the repayment period of up to 10 years. The Perkins Loan program allows for cancellation of all or part of the loan in return for certain types of teaching, military service or service as a Peace Corps or VISTA volunteer.

Supplemental Loans to Students (SLS) are available to graduate students through participating lenders (*banks, savings and loan associations, and credit unions*). The maximum amount a graduate student may borrow is \$4,000 per academic year, \$20,000 total. Repayment begins 60 days after the loan is negotiated at a variable interest rate based on the one-year Treasury Bill plus 3.75 percent capped at 12 percent. Deferment for full-time student borrowers may be possible. Applications and deferment details are available at participating lending agencies.

Stout University Foundation Scholarships are available through the Foundation Office (*Louis Smith Tainter House, 715/232-1256*). Scholarships vary in amount and awarding criteria. Deadline for application is early February preceding the academic year.

The College Work-Study Program provides job opportunities on campus. Under this program, students earn an hourly wage up to a yearly earning limit determined by the Financial Aid Office.

The University (State Payroll) Employment Program is available to students to earn an hourly wage as determined by the department which does the hiring.

Opportunities are available to graduate students to serve as a **Resident Adviser** on a floor community, or as an **Assistant Residence Hall Director**. Resident advisers receive remuneration in the form of room and board. The assistant hall director position is salaried. Assistant hall director applicants are required to have two years undergraduate staff or active residence hall government experience. Application for both positions should be made to the Residence Life Office (16 North Hall, 715/232-2131).

Grants from the **Rehabilitation Services Administration (RSA)** provide a number of traineeships for qualified students accepted into the Vocational Rehabilitation program. The traineeship provides assistance for graduate students for a maximum period of

one year, and are available for students with a concentration in Vocational Evaluation, Work Adjustment or Rehabilitation Facility Administration. Recipients must meet the requirements of Rehabilitation Services Administration, the Graduate College and the Vocational Rehabilitation Program. Priority is given to applicants with prior experience, handicapped students, members of minority groups and persons with financial need.

Bureau of Indian Affairs Grants (BIA) are available to U.S. citizens who can establish need and proof of at least one-fourth Native American descent as certified by application to the appropriate tribal or Bureau of Indian Affairs agency. This grant has no set limit amount and is renewable for up to five years total undergraduate and graduate study.

Wisconsin Native American Student Assistance Grants (WIG) award up to \$1,800 for Wisconsin residents who are Native Americans and demonstrate financial need. This grant is renewable for up to 10 total semesters, undergraduate and graduate study total.

International Student Tuition Waivers may be awarded to students from other countries based on scholarship and a recommendation from the program director. Awards are subject to the availability of funds. Awards will be made only after admission to the Graduate College has been granted. Students must be enrolled as full-time graduate students to receive this award. Interested students should follow all degree application procedures as well as filing an application for the International Student Tuition Waiver with the Financial Aid Office. The application deadline is May 1 with awards announced about June 1. Applications received after May 1 will be considered only if additional funds become available. Applications are available at the Office of International Student Services (400 Bowman Hall, 715/232-2132) or the Financial Aid Office.

Student Research Fund

The purpose of the Student Research Fund (SRF) is to provide undergraduate and graduate students with funds to support expenses incurred during the performance of, or in reporting the results of, their independent research. Research is broadly defined as the systematic, scholarly investigation of some phenomenon or series of phenomena. This includes the creative pursuits characteristic of the arts and humanities. It is expected that this research will be conducted by the student, with guidance provided by a member of the faculty. To be eligible for support from the Student Research Fund, a student must be enrolled for thesis, research problems, field study or a special topics/independent study research credit class under the direction of a faculty mentor. The Student Research Fund is supported by the Graduate College and Research Promotion Services. Applications are available in the Graduate Office (400 Bowman, Hall 715/232-2211).

SERVICES AVAILABLE

Residence Halls and Dining Services

The University has nine coeducational residence halls which provide accommodations for 2,900 undergraduate and graduate students. There is a residence hall designed for upperclassmen, graduate and non-traditional students. Some single rooms may be available during the academic year. During summer sessions, all students are assigned single rooms unless a specific roommate is requested. Applications for residence hall accommodations for the academic year or summer session should be requested directly from the Residence Life Office (16 North Hall, 715/232-1121).

Student rooms are carpeted and furnished with a telephone, two single beds with innerspring mattresses, dressers, bookcases, desks and study chairs. The rooms are approximately 11 feet x 15 feet. Small rental refrigerators are available or students may bring their own. Microwaves, coffee makers, hot pots and popcorn poppers with unexposed elements are permitted in student rooms. No other cooking appliances, including frypans, hot plates or toasters, are permitted.

Residence halls have available for resident's use many services and facilities. Personal computers with letter quality printers, and computer terminals which access the university's main academic computer and the Library Learning Center's computer, are in each hall. Through the use of these terminals, students can access the automated card catalog.

Also available in each hall are a laundry, television room, kitchenette, guest room, drafting tables, quiet-study rooms and a game room. There are five weight rooms and two saunas located in the residence halls available for resident's use. All these facilities are available to residents at no additional charge.

Each hall is staffed with a professional residence hall director and a student staff. The reception desks are open 22 hours per day and offer many services and a variety of equipment including typewriters, tools, change, vacuum cleaners, and cooking and sports equipment.

A wide variety of recreational, social and educational activities and programs are offered through the residence hall program.

Students who live on campus choose a dining service plan from a variety of options.

Inquiries for more information, including current rates, are invited by telephone or in person at the Residence Life Office, (16 North Hall, 715/232-1121).

Off-Campus Housing

Graduate students who choose to live in off-campus housing may obtain information from a variety of sources. The Stout Student Association Office (123 Memorial Student Center, 715/232-2100) maintains a current list of off-campus housing. Other sources of local housing information are the Dunn County News, the Menomonie Shopper and the Dunn County Reminder which are available from local merchants.

Graduate students planning to live off campus will find it useful to visit Menomonie to secure the type of housing desired.

All dining service options available to residence hall students may be contracted for separately by off-campus students.

University Counseling Center

A Counseling Center and Biofeedback Laboratory (11 Bowman Hall, 715/232-2468) serves both training and service functions by providing guidance and counseling, alcohol and other drug abuse counseling, school psychology, marriage and family therapy, vocational rehabilitation practicum opportunities, a resource center of guidance materials and equipment, and a wide variety of counseling and personal development opportunities. Orientation and support services for returning adult students are available.

Health Service

The University maintains a Student Health Service (715/232-1314) located at the north end of the campus across from Wigen Hall. The Health Service is open from 8 a.m. to noon and 1-4:30 p.m., Monday through Friday during the academic year. Standard examining and laboratory facilities are available. Appointments can be made by calling 232-1314. The Health Service is supported by a student health fee and only registered students are eligible for services. Services are not available during the summer session.

Students with Disabilities

If you are a student with a disability, you need to check with the Office of Services for Students with Disabilities (203 Administration Building, 715/232-1181) to inquire and arrange for services. To ensure that services are available in a timely and consistent manner, UW System Regent policy requires that each student contact the office as far in advance as possible, provide appropriate documentation of the disability, and seek funding for specialized support services (such as hearing aids, interpreters and individual prescribed devices).

Recreation

Recreation facilities include the Health and Physical Education Building (715/232-2224), Nelson Field and 10 outdoor lighted tennis courts. Stout offers open recreation, intramurals and physical education instructional classes. The building provides courts for tennis, badminton, volleyball, basketball and archery, as well as individual rooms for weight training, gymnastics and dance. A swimming pool is also located in this building.

Additional recreational facilities include the Recreation Center (715/232-1611) housed in the lower level of the Memorial Student Center. The Recreation Center provides an eight-lane bowling facility, a video game room, a nine table billiards area, an outdoor equipment rental center, and a recreation resource center with recreation-oriented publication planning guides and brochures. The Recreation Center is also the informational center for clubs and sports organizations on campus.

Lake Menomonie, within the city, offers the finest in fishing, swimming, boating, canoeing and water skiing. Similar opportunities are available on nearby lakes. Ski enthusiasts will find excellent opportunities within commuting distance. Game hunting opportunities are found in the immediate vicinity. Menomonie Country Club and Rainbow Ridge Golf Club have nine-hole golf courses.

Veterans Service

Special assistance is given veterans by the Registrar's Office (107 Bowman Hall, 715/232-1640). This office provides veterans with current information on veterans affairs and maintains liaison with the Veterans Administration, Department of Veterans Affairs and the County Veterans Service Officer.

Parking

Parking facilities on or near the campus are limited. Students who expect to use University owned or controlled parking lots must register their vehicles and observe the regulations issued by the Security Office (110 University Services Building, 715/232-1792). Limited parking adjacent to the residence halls is available to those living in them. The City of Menomonie has restricted parking ordinances which limit street parking both day and night.

Career Services

Services for seniors, graduate students and alumni is provided by the Career Services Office (103 Administration Building, 715/232-1601). The goal of the office is to provide effective support to the placement efforts each individual makes in securing the best position. Effort is made to bring to the attention of candidates information about vacancies, trends in supply and demand, data about salaries and conditions of employment, and effective application techniques. Career development and midlife career counseling assistance is also available. Students are encouraged to attend group seminars or meet individually with a placement counselor.

Child Care Service

Child care services are available at the Child and Family Study Center (715/232-1478 or 715/232-2651) during the academic year and eight-week summer session. This center provides services for children from birth through six years of age. The infants' and toddlers' program meets two hours per week. The day care program, which serves children three through six years of age, operates from 7:30 a.m. to 5:30 p.m., Monday through Friday. All other programs are limited to a 2½ hour block per day. Additional information on the programs, enrollment and fees can be obtained by writing the Director of the Child and Family Study Center, School of Home Economics, UW-Stout, Menomonie, WI 54751.

A list of Menomonie area child care providers is available from Returning Adult Student Services (11 Bowman Hall, 715/232-2468). A resource book containing more complete information about Menomonie area child care providers can be seen in the Student Services Office, 203 Administration Building or in the University Counseling Center, 11 Bowman Hall.

The Library

The Library Learning Center has an integrated audiovisual and print resource collection consisting of 202,321 volumes; 1,504 periodicals; 8,607 audiovisual items; and 790,403 microformats. Specialized collections of national prominence in Stout's major fields of graduate study and a complete collection of ERIC (*Educational Resource Information Center*) documents on microfiche are maintained. On-line computerized literature searches for 400 specialized databases are offered free of charge to students and faculty. Electronic indexes (CD-ROM and laser disks) are also available for on-site access to databases. The library is open 95 hours per week. A 60 work-station campus computing laboratory is equipped with microcomputers, hard-disk servers, printers and terminals connected to time-sharing computers.

Computer Services

Academic Computer Services provides computer support for graduate student and faculty research. Services provided include statistical consulting, programming assistance, data preparation for statistical analysis and optical scanning of mark-sense forms. A Digital Equipment Corporation computer is available for on-line computation, with terminals located in classroom buildings, the Library Learning Center and all residence halls. Dial-up access is provided for remote use. Research support and electronic mail services are available through state, national, and international high-speed data networks. All services are provided free for graduate student unfunded research.

Instructional Technology Services

Instructional Technology Services is housed in the Communications Center. Professional media specialists provide Stout staff and students with consultation and services in areas of instructional development, media design, utilization, media equipment and facilities; production of still and motion picture photography, graphics, instructional television, and audio recording.

Telecommunications

Telecommunications Services is housed in the Communications Center. Technical specialists provide the campus with consultation and service in the areas of telecommunications (*video, data and voice*) plus maintenance of most media equipment, computer terminals and microcomputers.

Teleproduction Center

The Stout Teleproduction Center produces television programming for broadcast on the Wisconsin Public Television Network, as well as other state educational organizations and non-profit agencies. The Teleproduction Center also provides satellite uplinking and associated production services for agencies and institutions wishing to originate interactive satellite teleconferences from West Central Wisconsin.

Textbooks

Graduate students may be required by their instructors to purchase textbooks and other classroom resources, or may be given the option of renting. Check with your instructors. Instructional Resources Service provides required textbooks and other classroom resources with the exception of consumables such as small paperbacks, workbooks and laboratory manuals. Consumable materials may be purchased directly from the University Bookstore.

ADMISSION TO A PROGRAM

Eligibility for Admission

A person who has a bachelor's or higher degree, awarded by a regionally accredited institution of higher education, may apply for admission. Such accreditation will usually be by an accrediting agency recognized by the United States Department of Education, the Council on Postsecondary Accreditation or, in selected cases, an agency judged appropriate by the admissions examiner.

An applicant for a master's program must have been awarded a bachelor's degree or equivalent, or apply for dual level. A program or combination of programs in higher education encompassing a period of study of at least four academic years which leads to the award of a diploma or certificate may be judged by the program director and the director of graduate admissions to be equivalent to a bachelor's degree.

An applicant for an education specialist program must have been awarded a master's degree or apply for dual level admission.

For information about Non-Program Enrollment, see the special section on Non-Program Enrollment.

Application for Admission

Persons seeking admission to a graduate or certification program must submit a properly completed application form (104-0111) to the admissions examiner 30 days before the expected term of enrollment.

Transcripts bearing the official institutional seal and signature for all previous undergraduate and graduate work attempted must be forwarded to the admissions examiner by the registrar of the institution(s) where the work was completed. The applicant should request the registrar(s) to send the official transcript. An applicant may submit an official transcript providing it bears no restrictive statement. UW-Stout transcripts need not be requested. An applicant applying prior to being awarded a degree must submit a transcript which shows work through all but the last term. Such applications are subject to re-evaluation based upon the final transcript. In rare cases, an applicant may submit an attested copy of a transcript.

A \$20 non-refundable fee is required.

Program directors may request additional information such as references, a resume and a statement of goals.

All applicants from countries in which English is not the official language of instruction must take the Test of English as a Foreign Language (TOEFL) and have the score sent to the admissions examiner. The minimum acceptable score is established by individual program; see individual program descriptions in this Graduate Bulletin.

International students must show that adequate financial support exists for the planned period of study by filing a Declaration of Finances which is available from the Graduate Office (400 Bowman Hall, 715/232-2211). In addition, students being supported by a government agency must present written evidence of approval by that agency for the program being requested.

Evaluation of Admission Criteria

Applicants are evaluated for admissibility on the basis of having earned the minimum degree, scholastic achievement, appropriateness of educational background and the relevancy of work experience.

Grade point average will usually be identified on the transcripts submitted by the degree-granting institution. In cases where the applicant attended more than one institution and less than 55 credits were awarded by the degree-granting institution, or where a grading system other than the following was used, the overall grade point average will be calculated based upon the grades awarded by the institutions at which original credit was granted.

Grading System Used to Evaluate Transcripts

Undergraduate Work			Graduate Work		
Grade	Point	Description	Grade	Point	Description
A	4.00	Excellent	A	4.00	Exceptional
A-	3.67		A-	3.67	
B+	3.33		B+	3.33	
B	3.00	Very Good	B	3.00	Satisfactory
B-	2.67		B-	2.67	
C+	2.33		C+	2.33	
C	2.00	Average	C	2.00	Marginal
C-	1.67				
D+	1.33				
D	1.00	Passing	D	1.00	Unsatisfactory
D-	0.67				
F	0.00	Failure	F	0.00	Failure

The appropriateness of course work taken will be evaluated by the program director(s) in relation to the optimum background specified for the program(s) requested. Educational deficiencies may necessitate provisional admission which would require additional undergraduate and/or graduate work.

Where applicable, work experience will be reviewed by program directors in the evaluation process. Lack of relevant work experience may lead to denial of admission.

An applicant may be denied admission on the basis of any one or any combination of the following: not having the required degree, low grade point average attained, inappropriate educational background, insufficient relevant work experience or enrollment limitations.

Admission Types

Admission types include **full**, **probationary**, **provisional**, **trial** or **dual level**.

An applicant fulfilling the specified requirements for educational background and work experience will be granted full admission provided that the following grade point average specification was also attained.

Individual master's programs specify grade point average admission requirements as identified in individual program descriptions in this Graduate Bulletin. The general requirement allows **full** admission if the applicant has a 2.75 grade point average overall, or 2.90 grade point average on a minimum of the last 55 credits attempted. A grade point average of 3.25 on master's degree and other graduate work is required for full admission to an Ed.S. program.

An applicant for a master's program who fulfills the specified requirements for educational background and work experience may be granted **probationary** admission with an undergraduate grade point average ranging from 2.25 to 2.75. It should be noted that education programs may require an absolute minimum grade point average of 2.75 for admission if the applicant seeks certification. In all cases, check specific program requirements listed elsewhere in this bulletin. Applicants for an Ed.S. program may be granted **probationary** admission with a grade point average ranging from 3.0 to 3.25 on the master's degree and other graduate work.

Individual program descriptions identify specific educational background requirements as presented in this Graduate Bulletin. These requirements may include certain majors, specific courses and/or grades. In cases where deficiencies are evident, the program director will identify course work and grades as stipulations and permit **provisional** admission. Courses could include graduate and/or undergraduate credit, but will not count toward program requirements.

An applicant may be admitted with both **probationary** and **provisional** status.

Trial admission may be granted to a master's program applicant with less than a 2.25 grade point average upon recommendation of the program director. The applicant must then take a trial block of course work specified by the program director. The program director will also specify a minimum grade of "B" for each course in the block or grade point average of 3.0 for the entire trial block. Upon completion of the trial block, probationary academic standing will be granted if the specifications are met, or the applicant will be dropped. Trial block course work will not count as part of the requirements of the program.

Each applicant generally will be informed of admission or denial within 30 days of the receipt of all required materials. Applicants to programs with priority dates will be notified about 30 days after the priority date has passed.

Admission is granted for one year or for one term depending upon the program requested. Admitted applicants who do not enroll within that year or term must reapply. Reapplication will not require repayment of the application fee.

A student may change programs, or may change from non-program to a program classification (form 104-0111). All admission requirements must be fulfilled to effect the change.

Dual Level Admission

A student may apply for admission to a master's program provided that a bachelor's degree will be awarded at the end of the term in which the first graduate work will be taken and that all other regular admission requirements can be met. The applicant must submit a "Dual-Level Program Enrollment Statement" (form 104-0116) to the admissions examiner. A student admitted on dual level who is not awarded the undergraduate degree at the end of the specified term, will be dropped from the Graduate College without loss of graduate credit. Upon subsequent receipt of the degree, the student may reapply for admission. If scheduling problems are evident, the director of graduate admissions can allow dual level to extend through two successive terms. Dual-level students are governed by the Graduate Load Limit policy.

Graduate students may be admitted to an Ed.S. program providing that the master's degree will be awarded at the end of the term in which Ed.S. work is taken and that the graduate grade point average is at least 3.25 at the time of application. All other regular Ed.S. admission requirements must be met. A student admitted on dual level (*MS/Ed.S.*) who is not awarded the master's degree at the end of the specified term, will be dropped from the Ed.S. program without loss of credit. Upon subsequent receipt of the master's degree, the student may reapply for admission to an Ed.S. degree.

Multiple Program Admission

A student may apply for and enroll in more than one master's program at a time. However, the program that will be completed first must be identified. Separate applications and accompanying materials are required for each.

Second Master's Program

A graduate of a master's degree program may earn a second master's degree by meeting program requirements and completing a minimum of 15 credits at UW-Stout, which must include the research requirement. The seven-year limit does not apply to the credits from the first master's degree that are used to meet the requirements of the second master's degree.

PROGRAM PLAN

Requirements of the Program Plan

Descriptions of program plans are found in this Graduate Bulletin. These descriptions are regulated by the governance procedures of UW-Stout. The individual student's program plan is initiated by the student and approved by the program director. The approved program plan must identify the year and term of the earliest credit that will be used to meet program requirements. The program plan is kept on file with the program director. The plan will accompany the Application for Degree Candidacy when applying for candidacy.

Master's programs require a minimum of 30 credits. Education specialist programs require a minimum of 36 credits. Specific program requirements may be greater. They are specified by program in this Graduate Bulletin.

One-half of the minimum credits required for graduation (15 for master's and 18 for education specialist) must be in graduate only (700-800) courses.

Independent Study

Students may design special topic courses other than those currently offered through independent study. This option is open during any enrollment or course-add period. Summer Session enrollments are closed at the end of the fifth week of the eight-week session. Students may initiate the process by obtaining an Application for Independent Study from the office of the assistant dean of the school in which this independent study is to be offered. The student selects a topic and completes the form. After a topic area has been identified and approved by the appropriate department chairperson, a member of that department is appointed study coordinator. Credits are awarded on the basis of expending a minimum of 48 hours of effort for each credit and on an evaluation of the extent to which the stated objectives were met. Independent study topics are those not offered through existing courses. Approved independent study courses are completed by the student in consultation with the assigned independent study coordinator who provides counsel and aid to the student in achieving the approved desired learning objectives.

Students should consult in advance with their program director to find out whether the proposed independent study may be used in the degree program.

Credit by Examination

Credit by examination is possible through "test out" procedures developed by the various academic departments. Students must be enrolled during the test out term and will be charged a test out fee.

Transfer Credit

Graduate credit earned at another graduate school may be considered toward the fulfillment of program requirements provided that:

- a. They meet the Seven-Year limit policy.
- b. The institution is accredited at the graduate level.
- c. The course is offered for graduate credit and is applicable to a graduate program at the offering institution.
- d. The grade received was "B" (3.0) or higher.

To be applied to program requirements, transfer credits must be approved by the program director (form 104-0123). The total of these is limited to one-third of the minimum required credits for graduation from the program. Said credits will be posted on the UW-Stout transcript when two copies of official transcripts and a Request to Transfer form are filed in the Graduate Office. Only those credits to be used to meet program requirements will be transferred.

Credit may be transferred from those international institutions with which UW-Stout has entered into a formal transfer agreement. All other criteria apply.

Research Requirement

All graduate programs require research preparation and activity. See the program descriptions for individual program requirements and alternatives.

Residency Requirement

There are two ways of establishing residency. The first option requires that during at least one term, each student must earn a minimum of six credits on the UW-Stout campus to establish residency. These credits cannot include the six-credit thesis or the six-credit field study. Some programs allow the second option of a series of graduate seminars which will meet the residency requirement.

Load Limit

Graduate students may take a maximum of 16 credits per semester or 10 credits per 10-week Summer Session. With the approval of the program director, a student may take a two-credit overload during a semester or a one-credit overload during one of the four-week summer sessions. Credit Overload Permit cards are available from the program director or in the Graduate Office. Audits are considered to be part of load.

Seven Year Limit

All course work and research used to meet program requirements must be completed within the seven-year period prior to graduation.

REGISTRATION FOR CLASSES

The opportunity to register for classes is provided two to three months in advance of the start of each term. Classes are chosen in consultation with the program director, based upon the program plan. The approval of the program director is required.

Students who do not attend the first class meeting of a course may be dropped from that course if it is closed and if other students are waiting to enroll in it.

Students may add or drop classes during the "Add/Drop Period" which is identified in the schedule book for each term.

Drops made during the first two weeks of semester courses or the first week of quarter courses will not appear on the student's transcript. Drops after that time will be assigned a grade of Withdrew Satisfactorily (WS) or Withdrew Unsatisfactorily (WU) and will appear on the transcript. Lab fees will not be refunded for drops after the first week. Any drop after the midterm date is recorded as an "F." If extenuating circumstances exist, the course instructor may grant a withdrawal after the midterm date.

ACADEMIC STANDING

Each student will be reviewed for academic standing at the end of each term.

A student attempting nine or more credits (*credits attempted*) during a semester will be granted full-time student standing. To maintain full-time student standing, a student must demonstrate academic progress in a minimum of six of those credits (*credits which demonstrate academic progress*). Full-time students who do not demonstrate academic progress will be placed on academic progress probation. Full-time students on academic progress probation who do not demonstrate academic progress will be placed on part-time student standing and are subject to dismissal from the University. Credits attempted include all credits for which A, A-, B+, B, B-, C+, C, D, F, W, WS, WU, I, or IP were recorded. Credits which demonstrate academic progress include those credits for which A, A-, B+, B, B-, C+, C, or IP were recorded and research credits for which I's were recorded.

A student attempting eight or fewer credits during a semester, or five or fewer in a summer session, will be granted part-time student standing and will not be eligible for financial aid.

Graduate students are not allowed to use the pass/fail system for any courses to be used to meet program requirements or for any courses identified as deficiencies at admission.

The grade "Incomplete" (I) may be given for failure to complete course work due to absence over which the student had no control. Incompletes not cleared within one year of the date of assignment, will be changed to an "F." To receive credit after that time, the student must re-register for the course. The grade "In Progress" (IP) may be given for research and independent study credits in cases where the student has been working on the problem, but requires more time to complete it. If the IP grade is not cleared within two years of assignment, the student must re-register for the course.

All course work taken for graduate credit is counted in the calculation of the grade point average.

To maintain full academic standing, an accumulated grade point average of 3.0 for master's degree students and 3.25 for Ed.S. students, is required. If less than the minimum is attained, the student will be placed on probationary academic standing.

A student on probationary academic standing who attains the minimum accumulated grade point average on the next six or more credits, will be awarded full academic standing. A student on probationary academic standing who fails to attain the minimum accumulated grade point average on the next six or more credits, will be dropped from the University.

Students may repeat a course, but all grade points earned for the course, no matter how many times it is taken, will be counted in the calculation of the grade point average.

A student dropped from a graduate program is not eligible to enroll for graduate credit unless readmitted to a graduate program.

Grading System:

Grade	Points	Description
A	4.00	Exceptional
A-	3.67	
B+	3.33	
B	3.00	Satisfactory
B-	2.67	
C+	2.33	
C	2.00	Marginal
D	1.00	Unsatisfactory *
F	0.00	Failure *
I		Incomplete
IP		In Progress
AU		Audit *

* Grades D, F and AU are not applicable to program requirements.

PROGRAM PROGRESS

Each student will be reviewed for program progress at the completion of each term.

A student on provisional admission who completes all deficiencies will have the provisional admission removed upon the recommendation of the program director. A student who does not successfully complete deficiencies may be dropped from the university upon the recommendation of the program director.

Degree Candidacy

The Degree Candidacy Application (*form 104-0117*) initiates the process by which the Graduate College, in conjunction with the program director and the school dean, attests to the appropriateness of program plan and the potential of the student to obtain the related academic and professional competencies. Candidacy must be approved before the Graduate Application for Degree is filed with the Graduate Office. At the time of filing, the following conditions must exist:

- The student is on full academic standing.
- The residency option has been identified.
- A program plan has been approved by the program director.

The Degree Candidacy Application must be accompanied by the Approved Program Plan. If transfer credit is involved, the Request to Transfer Credit (*form 104-0123*) must be on file in the Graduate Office. Degree candidacy requires the approval of the program director, the dean (*or designate*) of the school within which the program is housed, and the associate dean for graduate studies and curriculum.

Meeting the Research Requirement

The various programs have alternatives for meeting the research requirement.

The candidate initiates the process by which the research adviser is identified and the research topic is approved by the research adviser and the program director. This process requires the filing of various forms with the program director and the Graduate Office. Among these forms is the Protection of Human Subjects in Gradu-

ate Student Research (*form 104-1013*), which must be submitted to and approved by the Protection of Human Subjects Committee before data collection is begun.

Research advisers must be members or associate members of the graduate faculty. See the back section of this Graduate Bulletin for a list of the Graduate Faculty.

The completed research report (*including the abstract*), in the accepted format, approved by the research adviser(s), and accompanied by the Statement of Permission (*form 104-1005*) or the Statement of Withholding Permission (*form 104-1006*), must be submitted to the Graduate Office on or before the last day of the term in which graduation is expected.

Upon the recommendation of the research adviser (*form 104-1008, Statement of Research Report with Limited Access*), the research report will be withheld from the Library Learning Center for a period of 12 months. With the approval of the Graduate Committee, the report may be withheld for an additional 12 months.

Graduation

The candidate must file a Graduate Application for Degree card with the Graduate Office at the beginning of the term in which they expect to graduate.

To file, the candidate must be on full academic standing and must meet all program requirements as specified in the Graduate Bulletin at the time that the program plan was approved by the program director. The Graduate Office and the program director will certify that all requirements have been met. The diploma will be mailed to the student four to eight weeks after the end of the term of graduation. Candidates that require certification of graduation earlier may request a letter stating such from the associate dean for graduate studies and curriculum. A candidate will be recorded as "graduated" at the end of the term in which all program requirements were completed, including the filing of the research report in the Graduate Office.

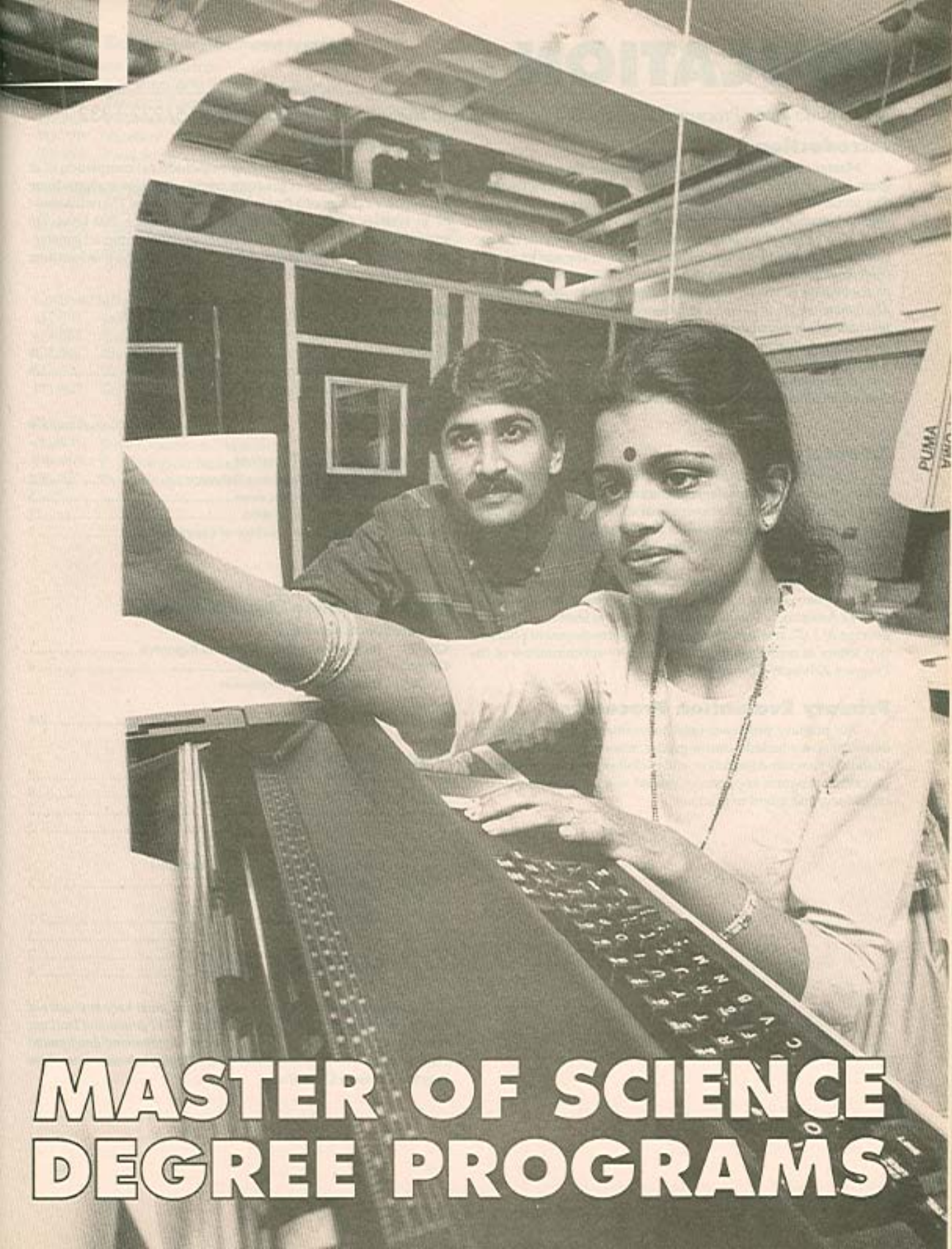
Candidates are allowed to participate in the graduation ceremony if all requirements have been met except the filing of the research report. This assumes that the candidate has enrolled for the required research course.

NON-PROGRAM ENROLLMENT

A student may request permission to enroll as a non-program student by completing the first page of the Application for Admission (*form 104-0111*). To be eligible, that individual must hold a bachelor's degree from a regionally accredited institution. Students granted non-program enrollment are subject to the graduate policies. Individuals who have been dropped from a program are not eligible for non-program enrollment. Students who are in good standing in a program may request non-program enrollment, in

which case they would become a non-program student.

Non-program students will be advised in pursuing their non-program work by the associate dean of graduate studies and curriculum. Non-program students may enroll in any 500 or 600 level course, and most 700 level courses. Certain 700 level courses, such as research, practicum and internship, and all 800 level courses are restricted to program-enrolled students.



MASTER OF SCIENCE DEGREE PROGRAMS

EDUCATION

Dr. Virginia Peter, Program Director, 420 Education and Human Services Building, 715/232-1332

Introduction

Master of Science Degree. The purpose of the education program is to prepare individuals to work as professional teachers. The focus of the course work in the program is on the learner, teacher behavior, teaching-learning processes, research and evaluation. The program is open to professionals who provide instruction in any discipline or work with learners at any age level. The open concentration provides flexibility for students to choose course work which promotes their professional development goals. The concentration in Gifted and Talented Education is intended for teachers who wish to develop expertise in the education of gifted and talented students. The Master Teacher Concentration is provided for teachers who do not wish to be administrators, but who would function as transformational classroom leaders in instruction, curriculum development, evaluation and staff development.

Admission

To be admitted with full status to this program, the applicant must (1) hold a bachelor's degree from an accredited institution; (2) have an overall grade point average of at least 2.75, or an average of at least 2.90 in the last one-half of the undergraduate work, or an average of at least 3.0 for no less than 12 semester credits of graduate study.

To be admitted to the Master Teacher Concentration, a student must have two years of teaching experience or equivalent, complete 421-712 Analysis of Teaching Behavior with at least a grade point average of 3.67, and submit a professional development plan and two letters of recommendation to a faculty subcommittee of the Program Advisory Committee.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; related work experience; degree candidacy; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level; (b) approval for degree candidacy at the appropriate time; (c) satisfactory completion of thesis or field study or problems in education; and (d) a course distribution as outlined below.

Degree Without a Concentration

Preparation in Research

421-729	Introduction to Educational Research	1
421-740	Research Foundations	4
421-765	Problems in Education <i>or</i>	
421-770	Thesis <i>or</i>	
421-890	Field Study	2-6

Preparation Basic to Program

421-712	Analysis of Teaching Behavior	2
421-720	Instructional Processes	3
421-744	Seminar in Education	2
479-730	Advanced Psychology of Learning	2

Electives (10-14 credits)

Master Teacher Concentration

Preparation in Research

421-729	Introduction to Educational Research	1
421-740	Research Foundations	4
421-765	Problems in Education <i>or</i>	
421-770	Thesis <i>or</i>	
421-890	Field Study	2-6

Preparation Basic to Program

421-712	Analysis of Teaching Behavior	2
421-720	Instructional Processes	3
421-744	Seminar in Education	2
479-730	Advanced Psychology of Learning	2

Concentration Requirements (14 credits)

150-600	Organizational Leadership	3
421-702	Principles of Supervision <i>or</i>	
421-7XX	Mentoring Teachers	2-3
421-742	Program Evaluation	3
421-750	Curriculum Theory and Practice	2
421-XXX	Field Experience - Teaching	4

To be admitted to this concentration, a student must have two years of teaching experience or equivalent, complete 421-712 Analysis of Teaching Behavior with at least a grade of 3.67, and submit a professional development plan and two letters of recommendation to a faculty sub-committee of the Program Advisory Committee.

Gifted Education Concentration

Preparation in Research

421-729	Introduction to Educational Research	1
421-740	Research Foundations	4
421-765	Problems in Education <i>or</i>	
421-770	Thesis <i>or</i>	
421-890	Field Study	2-6

Preparation Basic to Program

421-712	Analysis of Teaching Behavior	2
421-720	Instructional Processes	3
421-744	Seminar in Education	2
479-730	Advanced Psychology of Learning	2

Concentration (12 credits)

431-595	Introduction to Gifted Education	2
431-597	Field Experience in Gifted Education	4
431-601	Identification of the Gifted	2
431-602	Psychosocial Education of the Gifted	2
431-605	Curriculum Development for the Gifted	2

Selectives (0-2 credits)

421-574	Field Experience – Mentoring	1-2
459-610	Psychological Testing for Special Population <i>or</i>	
489-753	Psychometric Theory and Application	2

FOOD SCIENCE AND NUTRITION

Dr. Janice Timmer, Program Director, 205 Home Economics Building, 715/232-2183

Introduction

Master of Science Degree. The goal of this program is to increase professional proficiency, to introduce research procedures and to promote precision in communication. Those who complete the academic requirements for this advanced degree should be able to think more independently and to respond intelligently to challenging ideas. The program prepares students for advanced positions in teaching, dietetics, a wide range of opportunities in business and industry, further education, and can be used as part of the requirements to become a registered dietitian. Programs of study are individualized in consultation with the program director to meet the students' needs and goals.

Learning experiences include traditional classes, clinical experience in health care and community agencies, businesses, field trips, laboratory experimentation, thesis, research paper, and seminar participation. All students participate in weekly research presentations by faculty and fellow students and are encouraged to present their research at the annual Graduate Research Day.

Admission

To be admitted to this program with full status, the applicant must have a bachelor's degree from an accredited college or university, with courses in organic and biochemistry, microbiology, physiology, foods and advanced nutrition, and have an overall grade point average of at least 3.0. Applicants with a grade point average between 2.5 and 3.0 may qualify for probationary admission.

Students from a variety of educational backgrounds are eligible for admission. In addition to home economics majors, students from the biological, chemical and social sciences will find appropriate applications within the program. Students who do not have a course in European or American foods, will be required to take a beginning foods course as a deficiency.

A deficiency in these admission requirements does not preclude admission, but may necessitate completion of additional undergraduate courses and/or increase the number of graduate credits required to earn the degree.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; degree candidacy; research topic approval; and intent to graduate.

Requirements

The requirements for this degree include the following: (a) completion of at least 30 semester credits with an overall grade point average of 3.0 or better; (b) inclusion of a minimum of 15 of the 30 credits in courses open only to graduate students—700 level; (c) approval of degree candidacy at the appropriate time; and (d) completion of the research and professional requirements.

Research Preparation

6-10 credits

229-770	Thesis in Food Science and Nutrition or	
229-747	Problems in Food Science and Nutrition	2-6
421-740	Research Foundations	4

A concentration may be selected from the following or patterns of advisement developed in consultation with the program director to meet individual needs of the student. All advisement patterns include the research preparation requirements.

Professional Preparation

14-24 credits

Select 14-24 credits from concentration A, B or C, or 20-24 credits from concentration D or E.

A. Foods (14-24 credits)

229-620	Food Styling	3
229-638	Experimental Foods	3
229-642	Advanced Foods	2
229-650	Food Processing	3
229-661	Social and Cultural Aspects of Food	2
229-701	Trends in Nutrition	2
229-706	Instructional Techniques in Food Systems	2
229-708	Food Seminar	2
229-715	Menu Analysis and Planning	3
229-720	Workshop in Foods	1
229-725	History of Food	3
229-740	Food Preservation Technology	3
229-742	Sensory Evaluation of Food	2
229-746	Food Innovations	3
229-756	Advanced Experimental Foods	3
229-799	Independent Studies in Food Science	1
308-506	Food Microbiology	3
311-515	Food Chemistry	3
311-535	Instrumental Methods of Analysis	3

B. Nutrition (14-24 credits)

229-606	Nutrition Education	3
229-618	Diet Therapy	4
229-630	Food Behavior	3
229-633	Maternal and Child Nutrition	3
229-701	Trends in Nutrition	1-2
229-702	Minerals and Vitamins	3
229-705	Geriatric Nutrition	2
229-710	Clinical Nutrition	3
229-711	Nutrition Seminar	2
229-712	Practicum in Community Nutrition Programs	1-3
229-721	Workshop in Nutrition Programs	1
229-729	Proteins	3
229-736	Carbohydrates and Lipids	3
229-799	Independent Studies in Nutrition	1

C. Food and Nutrition (14-24 credits)

In consultation with the program director, select courses from concentrations A and B with a minimum of 5 credits from the concentration of lesser interest.

D. Food and Food Service Administration (20-24 credits)*Food (8-10 credits)*

229-620	Food Styling	3
229-638	Experimental Foods	3
229-642	Advanced Foods	2
229-661	Social and Cultural Aspects of Food	2
229-708	Food Seminar	2
229-720	Workshop in Foods	1
229-725	History of Food	3
229-740	Food Preservation Technology	3
229-742	Sensory Evaluation of Food	2
229-746	Food Innovations	3
229-756	Advanced Experimental Food	3

Food Service Administration (12-14 credits)

150-600	Organizational Leadership	3
229-701	Trends in Nutrition	1-2
229-706	Instructional Techniques in Food Systems	2
229-715	Menu Analysis and Planning	3
245-521	Food Service Equipment	2
245-626	Hospitality Industry-Employee and Labor Relations	2
245-656	Microwave Oven	2
245-670	Hospitality-Financial Analysis/Budget/Forecasting	3
245-700	Management Concepts in Food Administration	1
245-701	Food Service Administration Management-Implementation	1
245-702	Operational Controls in Food Service Management	1
245-703	Seminar in Analysis of Food Service Management Systems	3
354-741	Computer Programming Techniques*	2

Those who have not taken 245-501 or 245-513 or the equivalent will be required to take these courses in addition to the concentration requirements.

**Not required of those who have had the undergraduate equivalent experience.*

E. Nutrition and Food Service Administration (20-24 credits)*Nutrition (8-10 credits)*

229-633	Maternal and Child Nutrition	3
229-702	Minerals and Vitamins	3
229-705	Geriatric Nutrition	2
229-710	Clinical Nutrition	3
229-721	Workshop in Nutrition	1
229-729	Proteins	3
229-736	Carbohydrates and Lipids	3

Food Service Administration (12-14 credits)

150-600	Organizational Leadership	3
229-701	Trends in Nutrition	1-2
229-706	Instructional Techniques in Food Systems	2
229-715	Menu Analysis and Planning	3
245-521	Food Service Equipment	2
245-626	Hospitality Industry-Employee and Labor Relations	2
245-656	Microwave Oven	2
245-670	Hospitality-Financial Analysis/Budget/Forecasting	3
245-700	Management Concepts in Food Administration	1
245-701	Food Service Administration Management-Implementation	1
245-702	Operational Controls in Food Service Management	1
245-703	Seminar in Analysis of Food Service Management	3
354-741	Computer Programming Techniques*	2

Those who have not taken 245-501 or 245-513 or the equivalent will be required to take those courses in addition to the concentration requirements.

**Not required of those who have had the undergraduate equivalent experience.*

Preparation for Further Development**0-10 credits**

Electives are selected according to the candidate's background, interests and objectives. Frequently, courses are chosen from other areas of home economics or from the following fields: business administration, biology, chemistry, economics, education, English, journalism, applied mathematics, mathematics, physics, psychology, sociology, speech, vocational rehabilitation, industrial management and media technology.

GUIDANCE AND COUNSELING

Dr. Calvin Stoudt, Interim Program Director, 237F Harvey Hall, 715/232-1442

Introduction

Master of Science Degree. The program in guidance and counseling provides a basic preparation in counseling. This can lead to certification by the State of Wisconsin for school counseling and employment in the public schools or to employment in a counseling position in other clinic and agency settings.

Students who seek certification from the Wisconsin Department of Public Instruction must choose either the elementary or the secondary school option, or may elect to meet both elementary and secondary requirements for certification as a school counselor on a K-12 basis. Students desiring to be certified for counseling positions in the Vocational, Technical and Adult Education System, and who can meet the teacher certification and experience requirement for that system, may elect to follow the secondary certification program or the vocational-technical school program.

Students interested in community, mental health agency, or alcohol and drug abuse counseling should apply for the 48-credit concentration in counseling or degree without a concentration. Those with a specific interest in employment counseling or employee assistance and health promotions should apply for the appropriate concentration.

Learning experiences in the immediate professional setting include supervised counseling practicum and, in some concentrations, an internship.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

Applicants for any of the school certification concentrations must hold a teaching certificate valid in Wisconsin and have completed two years of teaching experience to be eligible for endorsement as a school counselor. A two-semester internship following completion of the certification program provides a certification alternative for elementary and/or secondary school counseling, in lieu of two years of teaching in an elementary or secondary school. Only a limited number of students will be admitted to the internship program and no internship can be guaranteed.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: applicant's goals; counseling process laboratory; and practicum evaluation.

Requirements

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below.

Core Requirements

21-25 credits

Concentrations in Elementary and/or Secondary School Counseling, Vocational-Technical School Counseling, Employee Assistance and Health Promotions, Employment Services Counseling, and the Degree Without Concentration have the following courses as core requirements:

413-675	Counseling Theory	2
413-731	Problems in Counseling and Psychological Services (Plan B) or	
413-770	Thesis (Plan A)	2-6
413-752	Group Dynamics	2
413-788	Counseling Process Lab	3
413-790	Supervised Counseling Practicum	6
421-740	Research Foundations	4
489-753	Psychometric Theory and Application	2

Students pursuing the alcohol and drug abuse counseling concentration will substitute 413-775 AODA Practicum I (8 credits) for supervised counseling practicum.

School Counseling Concentration

Elementary and/or Secondary School

General Certification Requirements (19 credits)

387-710	Sociological Foundations for Guidance	3
413-647	Behavior Problems of Children	2
413-666	Alcoholism and Family Systems Intervention	2
413-733	Career Development Process and Issues	2
413-733A	Career Information Lab	1
413-765	Organization and Administration of Guidance	3
431-630	Mainstreaming the Special Student	3
479-760	Personality	2
489-753A	Guidance Lab	1

Additional Certification Requirements

Elementary School Counseling Only

413-629	Guidance in the Elementary School	2
413-705	Play Therapy	2
489-251	Child Psychology or	
479-850	Psychology of Development*	3

Secondary School Counseling Concentration Only

413-787	Career Placement Services	1
479-552	Adolescent Psychology or	
479-850	Psychology of Development*	3

*May be used to satisfy both child and adolescent psychology requirements at K-12 Certification level.

K-12 School Counseling

Students who wish to be endorsed for all levels of school counseling must meet all the requirements of both the elementary and secondary concentrations. In addition, the practicum placement, consisting of 300 hours of supervised counseling, will be divided between an elementary school and a secondary school placement.

Internship Requirements

Students who will attain K-12 school counselor certification in Wisconsin and some other states through the internship are required to meet some minimum competencies in areas of teacher preparation dealing with curriculum development, organization of schools, the politics of education and the teaching-learning process. The following three courses enable the students to meet these competency areas. Substitutions or waivers may be made for students with previous equivalent course work or experience.

421-536	Multiculturalism: Issues and Perspectives	2
421-726	Administration	2
421-750	Curriculum Theory and Practice	2

Vocational-Technical School Concentration

In addition to the core requirements, persons desiring to attain certification as a VTAE counselor must complete the following course work.

1. All courses included in the K-12 school concentration general certification plan except 413-647 Behavior Problems of Children.
2. The additional certification requirements listed for the Secondary School Concentration.
3. Specialization Requirements:

199-502	Principles of Vocational, Technical and Adult Education ..	2
199-792	Administration of Vocational, Technical and Adult Education	2

 A two-year teaching experience is required for VTAE counseling. There is no internship alternative.

Employee Assistance and Health Promotions Concentration

Minimum competencies (prerequisites) include at least one course in Abnormal Psychology and one course in Theories of Personality.

EAHP Requirements (16 credits)

150-600	Organizational Leadership	3
413-666	Alcoholism and Family Systems Intervention	2
479-571	Health Psychology	3
479-582	Human Resource Management	3
XXX-6XX	Introduction to EAHP	3
XXX-7XX	Issues in EAHP Seminar	2

Selectives (11-15 credits)

150-750	Organizational Development	3
212-585	Family Based Employee Assistance Program	3
212-750	Systems of Marriage and Family Therapy	3
212-751	Marriage and Family Therapy Seminar	3
303-715	Anthropological Study of Family Systems	3
413-718	Shame, Addiction and Substance Abuse	3
413-733	Career Development Process and Issues	3
413-725	Counseling Special Populations	3
413-760	Theories and Techniques of Behavior Modification	2
421-742	Program Evaluation	3
459-509	Introduction to Biofeedback	3
459-510	Clinical Biofeedback Lab	3
459-520	Rehabilitation of the Chemically Dependent	3
479-579	Public Relations	2
479-581	Industrial Psychology	2
479-673	Psychology of Stress	2

Employment Counseling Concentration

In addition to the core requirements, persons desiring to pursue a degree in the employment counseling concentration must complete the following course work.

199-534	Task Analysis	2
413-733	Career Development Process and Issues	2
413-733A	Career Information Lab	1
413-787	Career Placement Services	1-2
459-717	Occupational Analysis and Information	2
489-753A	Guidance Lab	1

There is no certification requirement for this concentration.

Alcohol and Drug Abuse Counseling Concentration

AODA Requirements (15 credits)

212-750	Systems of Marriage and Family Therapy	3
212-751	Marriage and Family Therapy Seminar	3
413-666	Alcoholism and Family Systems Intervention	2
413-715	Orientation to Mental Health Counseling	1
413-718	Shame, Addiction and Substance Abuse	3
413-721	AODA Treatment Programs	3

Psychology Requirements (3-5 credits)

413-571	Psychology of Marriage and the Family	2
413-647	Behavior Problems of Children	2
413-650	Behavior Problems of Adolescents	2
413-705	Play Therapy	2
413-760	Theories/Techniques of Behavior Modification	2
479-535	Motivation and Emotion	3
479-552	Adolescent Psychology	3
479-561	Abnormal Psychology*	3
479-570	Assertive Training Procedure	2
479-574	Psychology of Women	2
479-673	Psychology of Stress	2
479-696	Health Psychology	3
479-730	Advanced Psychology of Learning	2
479-760	Personality	2
479-850	Psychology of Development	3
489-745	Assessment of Personality	2

*If 479-561 has not been taken, it is required as part of the graduate program. If it was taken as an undergraduate, select other courses from this list as part of the program.

Electives (5-7 credits)

212-653	Relationship Communication Training	2
212-660	Current Topics in Sexuality	1
212-760	Sex Therapy Seminar	2
303-610	Anthropology of Family Systems	3
413-694	Counseling Older Persons	2
413-725	Counseling Special Populations	3
413-776	AODA Practicum II	8
421-742	Program Evaluation	3
459-509	Introduction to Biofeedback	3
459-510	Clinical Biofeedback Lab	3
459-520	Rehabilitation of the Chemically Dependent	3

Degree Without Concentration

Those students whose professional objectives are more general than those defined in the previously described concentrations have the option of taking the core requirements and developing a set of elective course work with the approval of the program director. Electives will be chosen that will best meet the professional interests and needs of the student. The practicum placement will be made in a setting as close as possible to the student's employment objectives. Available practicum placements and elective course work is best suited to those students who are interested in working as counselors in community agency settings.

Counseling

A 48-credit concentration in general counseling has been approved; however, a number of courses specific to this program are in the process of being developed. Additional information can be provided by the program director.

Preparation for Further Development

Students who already hold a master's degree in some field of education, but who are not certifiable for counseling, may choose to meet certification requirements without the necessity of completing a second master's degree. The program director will evaluate transcripts and identify those courses that will be necessary for endorsement as a school counselor.

Full Time or Part Time Study

Extended field placement (practicum) required in these programs consists of 300 hours for one semester in the school certification concentrations. Part-time study while holding a full-time job is very difficult unless the employment provides considerable flexibility. The practicum may not be completed in the summer session because the time available is not extensive enough and regular school placements are not available. Therefore, full-time study for at least one calendar year is recommended. A substantial portion of all concentrations may be completed part time by attending summer sessions and during the regular semesters for late afternoon and evening classes. However, a commitment for at least one semester may be required at the point where the student is ready for the practicum field placement.

HOME ECONOMICS

Dr. Judy Herr, Program Director, 109 Child and Family Study Center, 715/232-1478 or -2651

Introduction

Master of Science Degree. The home economics program offers six concentrations: Home Economics Education; Home Economics/Family Life Education; Child/Family Services; Clothing, Textiles and Retail Marketing; Post-Secondary Certification; and the degree without concentration (*open concentration*). Each student's program is individually planned with the program director.

The Home Economics Education concentration provides an opportunity for persons who are in or wish to prepare for a position which requires knowledge of several or all substantive areas of home economics. Secondary and post-secondary teachers, as well as extension agents, frequently choose this concentration.

The Home Economics/Family Life Education concentration is designed for students preparing to meet the certification requirements for the Department of Public Instruction. This concentration has been designed to allow students to complete the certification requirements to teach secondary home economics in Wisconsin; specifically, it provides an internship to meet the student teaching requirement.

The Child/Family Services concentration provides an opportunity for persons wishing to prepare for positions in child care administration, resource and referral, or teaching young children. Course work is also available to obtain Wisconsin certification for teaching grades 1-3 for students who already have obtained a bachelor's degree in Early Childhood Education from UW-Stout prior to 1990.

The Clothing, Textiles and Retail Marketing concentration provides an opportunity for development of professional competencies in clothing, textiles, textile design, and/or retail marketing. It prepares students for professional positions in business, merchandising, industry or extension services, or provides concentrated study for persons planning to teach at the secondary, post-secondary or college level.

The Post-Secondary Certification concentration provides an opportunity to increase the professional competence of students who plan to teach in a post-secondary or high school; coordinate, supervise, or administer vocational programs.

The degree without concentration is flexible and provides for those persons whose career interests do not relate to the other five concentrations. It is designed for those individuals who wish to prepare for a home economics position which requires in-depth knowledge in one or several sub-specialty areas of home economics.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; student advisement; residency; program plan; and intent to graduate.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. This bachelor's degree will generally have been earned in the major areas of home economics educational services.

Requirements

The requirements for this degree include completion of at least 30 hours of graduate credit with an overall grade point average of 3.0 or better. A minimum of 15 credits must be in courses open only to graduate students - 700 or 800 level.

All of the concentrations and the degree without concentration require courses in substantive areas of home economics: Avocational Education, Child Development, Clothing and Textiles, Consumer Education, Family Life, Foods and Nutrition, Home Equipment, Home Management, Hospitality, Habitat, Parenting and Human Development, and Early Childhood.

Home Economics Education Concentration

30 credits

Research Preparation (6-10 credits)

242-770	Thesis-Home Economics or	
242-775	Problems in Home Economics	2-6
421-740	Research Foundations	4

Professional Core (4 credits)

200-700	Trends in Home Economics	2
242-744	Seminar in Home Economics Education	2

*Professional Education (6-14 credits)

242-708	Curriculum Studies in Home Economics	2
242-710	Applied Evaluation in Home Economics	2
XXX-XXX	Any approved electives	6-12

*Substantive Areas of Home Economics (6-14 credits)

Post-Secondary Certification Concentration

30 credits

Research Preparation (6-10 credits)

242-770	Thesis-Home Economics or	
242-775	Problems in Home Economics	2-6
421-740	Research Foundations	4

Professional Core (4 credits)

200-700	Trends in Home Economics	2
242-744	Seminar in Home Economics Education	2

* Professional Education (10-14 credits)

199-502	Principles of Vocational, Technical and Adult Education	2
199-710	Coordination and Supervision of Vocational Education	2
242-708	Curriculum Studies in Home Economics	2
242-710	Applied Evaluation in Home Economics	2
413-501	Introduction to Guidance	2
421-714	Teaching Strategies	4
479-730	Advanced Psychology of Learning	2
XXX-XXX	Electives related to student's professional goals	2-12

*Substantive Areas of Home Economics (6-8 credits)

The human relations code must be met if course work is not completed at the undergraduate level.

Home Economics/Family Life Education Concentration

34 credits

Research Preparation (6-10 credits)

242-770	Thesis-Home Economics or	
242-775	Problems in Home Economics	2-6
421-740	Research Foundations	4

Professional Core (4 credits)

200-700	Trends in Home Economics	2
242-744	Seminar in Home Economics	2

*Professional Education (6-14 credits)

242-708	Curriculum Studies in Home Economics	2
242-710	Applied Evaluation in Home Economics	2
XXX-XXX	Graduate Internship in Home Economics	8
XXX-XXX	Electives related to student's professional goals	0-2

*Substantive Areas of Home Economics (6-14 credits)

The human relations code must be met if course work is not completed at the undergraduate level.

Child/Family Services Concentration

30 credits

Research Preparation (6-10 credits)

242-770	Thesis Home Economics or	
242-775	Problems in Home Economics	2-6
421-740	Research Foundations	4

Professional Core (4 credits)

200-700	Trends in Home Economics	2
212-7XX	Seminar in Child/Family Services	2

*Professional Education (16-20 credits)

242-701	Applied Evaluation in Home Economics	2
242-708	Curriculum Studies in Home Economics	2
XXX-XXX	Electives related to student's professional goals	12-16

*Substantive Areas of Home Economics (16-20 credits)

A minimum of 10 credits must be taken in courses related to the Child and Family Study course.

Clothing, Textiles and Retail Marketing Concentration

30 credits

Research Preparation (6-10 credits)

214-768	Problems in Clothing, Textiles and Retail Marketing or	
214-769	Design Option Thesis or	
214-770	Thesis - Clothing, Textiles and Retail Marketing	2-6
421-740	Research Foundations	4

Professional Core (4 credits)

200-700	Trends in Home Economics	2
214-790	Seminar in Textiles, Clothing and Retail Marketing	2

*Substantive Areas of Home Economics (16-20 credits)

10 credits must be in Clothing, Textiles and Retail Marketing courses.

Degree without Concentration

30 credits

Research Preparation (6-10 credits)

242-770	Thesis Home Economics or	
242-775	Problems in Home Economics	2-6
421-740	Research Foundations	4

Professional Core (4 credits)

200-700	Trends in Home Economics	2
XXX-XXX	Seminar	2

*Substantive Areas of Home Economics (16-20 credits)

* Courses must be approved by the program director.

HOSPITALITY AND TOURISM

Dr. William Gartner, Program Director, 118 Home Economics Building, 715/232-1281

Introduction

Master of Science Degree. This program is especially designed for persons desiring to enhance management skills in the hospitality and tourism industries. The program goal is to select superior students and to provide them with an educational experience that will prepare them to make a significant contribution as professionals in the hospitality and tourism industry. At the completion of this program, graduate students will have enhanced their management abilities through:

1. Understanding societal needs for leisure and business travel activities and the requirements for implementing hospitality and/or tourism programs responsive to these needs;
2. Developing the capability to resolve problems at the management level of hospitality and/or tourism organization;
3. Conducting and interpreting intra and interdisciplinary research;
4. A knowledge of literature germane to hospitality and/or tourism;
5. Understanding the network of relationships among the components of hospitality and/or tourism; includes impacts on the host society.
6. Identifying leading state, national and international organizations in hospitality and/or tourism;
7. Acquiring knowledge of sources of information germane to hospitality and/or tourism; and
8. Applying computer capabilities to hospitality and/or tourism problems.

Learning experiences in the immediate professional setting include thesis, seminar in hospitality and tourism, and special problems in habitation resources.

Admission

To be admitted with full status to this program, the applicant must (1) hold a bachelor's degree from an accredited institution; (2) have an overall grade point average of at least 3.0 on a 4.0 scale [A = 4]; (3) International students must score a minimum of 550 on the TOEFL. Minimum GPA for admission 3.0 (*relevant industry experience may allow an applicant to enter into the program with an undergraduate grade point average less than 3.0*).

This program is designed for applicants with an undergraduate major in hotel and restaurant or tourism management, or equivalent. However, applicants with bachelor's degrees in such fields as economics, anthropology, geography, marketing, business administration, recreation, foreign languages, travel/tourism and hotel restaurant management will be given consideration. The records of applicants holding undergraduate degrees in these and other majors will be evaluated to determine if deficiency work will be required prior to full admission to the program. Those applicants whose preparation for the program is deemed to be deficient will be required to complete additional work, which may be at the undergraduate level, prior to being fully admitted to this graduate program.

Students seeking full admission to the program will be expected to have had one course in each of the following areas or equivalent experience:

- Accounting
- Restaurant operation
- Introduction of tourism
- Economics
- Lodging administration
- Sociology or Anthropology
- Food service administration
- Development of tourism or of tourism goods and services

Students must submit admission applications no later than May 1 for Fall term and October 1 for Spring term enrollment. Both a Graduate College application form and a program application form are required. All required admission documents, including official transcripts of all previous graduate and undergraduate work completed, must be received by the Graduate Office on or before these dates.

Students will be admitted on the basis of academic performance and other factors appropriate for consideration as follows:

- a. work experience in the hospitality and tourism industry.
- b. letters of recommendation from employers and/or previous instructors (*request these forms from the program director*).
- c. ratings of the applicant as judged by a screening committee, an interview and program director's recommendation.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; program seminar; degree candidacy; and intent to graduate.

Requirements

The requirements for this degree include (a) completion of at least 36 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students—700-800 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below.

Required courses

13-16 credits

245-710	Issues in Hospitality and Tourism	2
245-747	Hospitality and Tourism Research Interpretation	3
245-780	Seminar in Hospitality and Tourism	1
245-788	Publish Option (<i>Plan D</i>) or	
245-789	Thesis-Hospitality and Tourism (<i>Plan A</i>)	3-6
421-740	Research Foundations	4

Choose either Hospitality or Tourism as a concentration.

Hospitality Concentration

10 credits

229-620	Food Styling	3
229-661	Social and Cultural Aspects of Food	2
245-515	Lodging Administration	3
245-625	Hospitality Industry Law and Liability	3
245-626	Hospitality Industry-Employee and Labor Relations	2
245-670	Hospitality-Financial Analysis/Budget/Forecasting	3
245-681	Special Problems in Habitational Resources	2
245-682	Handicapped Traveler	1
245-700	Management Concepts in Food Administration	1
245-701	Food Service Administration Management-Implementation	1
245-702	Operational Controls in Food Service Management	1
245-799	Independent Study	1-3

Tourism Concentration

10 credits

245-640	Sociocultural System of Tourism*	3
245-644	Resort Planning and Operation	3
245-645	Geography of Tourism	3
245-681	Special Problems in Habitational Resources	2
245-682	Hospitality and the Handicapped Traveler	1
245-799	Independent Study	1-3
300-575	The Ascent of Man	2
326-505	American Regionalism	3
387-525	Sociology of Leisure	3

*Required course

Selectives

10-13 credits

120-580	Microcomputer Applications - Words/Data	2
150-600	Organizational Leadership	3
150-700	Systems Analysis and Design	3
160-679	Marketing Research	3
160-690	Administration and Business Policies	3
165-585	International Marketing	3
245-640	Sociocultural System of Tourism	3
245-681	Special Problems in Habitational Resources	2
320-680	International Trade	3
326-515	Technical Writing	3
354-530	Statistical Methods	3
387-525	Sociology of Leisure	3
421-714	Teaching Strategies	4
421-750	Curriculum Theory and Practice	2-3
479-679	Advanced Public Relations	2
479-582	Human Resource Management	3
XXX-XXX	Any approved electives	5

INDUSTRIAL/ TECHNOLOGY EDUCATION

Dr. Lee Smalley, Program Director, 418B Harvey Hall, 715/232-1484

Introduction

Master of Science Degree. This program is especially designed for individuals with undergraduate preparation in industrial arts, industrial education, technology education and related fields. However, it is also open to others interested in entering the industrial education field.

The program provides opportunities for students to expand their knowledge and competence in industrial education and technology education. Specifically, this program will provide students the opportunity to:

1. Understand the history, issues and philosophy of industrial/technology education.
2. Develop or expand competence in curriculum development.
3. Understand and apply learning theory to develop teaching strategies suitable for teaching in classroom and laboratory or work settings.
4. Develop effective interpersonal relationship skills.
5. Develop or expand the ability to organize, manage and maintain an industrial/technology education laboratory or work environment.
6. Design and use evaluation instruments procedures.
7. Develop or expand competence in technical areas suitable for teaching industrial/technology education.
8. Understand and be able to utilize information gained from technical and educational research.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree in industrial education, technology education (*or equivalent*) from an accredited college and have an overall grade point average of at least 2.75.

In addition, the applicant should have an undergraduate major in industrial arts education, technology education or its equivalent. This assumes preparation and certification (*or eligibility for certification*) for teaching industrial arts or technology education.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; degree candidacy; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students – 700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Preparation in Research

7-11 credits

190-739	Introduction to Problems in Industry/Technology	1
421-740	Research Foundations	4

The following two options are available for the research experience, each involving a research report:

190-735	Problems in Industrial/Technology Education	2
190-770	Thesis – Industrial/Technology Education	6

Preparation Basic to Program

14 credits

190-704	History/Philosophy of Technology Education	2
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Select at least one from each cluster:

Cluster 1. Foundations in Philosophy or Psychology

190-708	Issues in Technology Education	2
195-532	Futures of Technology	2
421-700	Philosophy of Modern Education	2
421-705	Social Thought of American Educators	2
479-730	Advanced Psychology of Learning	2

Cluster 2. Facilitation and Management of Learning

190-533	Technical/Vocational Planning Laboratories	2
190-606	Activities in Technology/Vocational Education	2
190-637	Organization and Management of Technical Laboratories ..	2
421-690	Learning Style Theory and Application	2
421-714	Teaching Strategies	4

XXX-XXX Graduate level computer course

Cluster 3. Evaluation

421-641	Education Evaluation	2
421-742	Program Evaluation	3

Cluster 4. Technical Research

XXX-XXX	Problems in (technical area)	2-6
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Select at least two from this cluster:

Cluster 5. Curriculum and Program Development

120-740	Instructional Development*	2
190-530	Implementing Technology Education	3
190-638	Course Construction*	2
190-710	Curriculum Innovations in Technology Education	2
199-674	Adult Education	2
421-750	Curriculum Theory and Practice	2

*May take either, but not both.

Preparation for Further Development

For students planning careers in teaching, it is recommended that their technical work (*graduate and undergraduate*) total at least 45 semester hours. Additional electives will be selected with approval of the graduate program director. A complete list of graduate work appropriate to this degree program is maintained by the program director.

Preparation Through Advisement Patterns

This program is designed so that at least one of a variety of advisement patterns can be developed within the framework of the industrial education degree programs. Beyond the preparation in research (7-11 credits) and preparation basic to the program (14 cr.), students will choose, in consultation with their program director, an advisement pattern supporting their work-role/life-role goals and select learning experiences (*course work*) which will support them in such areas as industrial or technology education teacher, supervisor or administrator in elementary, middle-junior high school, senior high school, post-high school, college or university, industry or other selected areas.

Required courses

The requirements for this degree include, in addition to the 45 semester hours of technical work, a minimum of 12 credits in research (7-11 credits) and preparation basic to the program (14 cr.). The program director will select the appropriate courses for the student's individual needs and interests.

Preparation in Research

7-11 credits
190-759 Introduction to Research in Industrial Technology
190-760 Research Foundations
190-761 Research in Industrial Technology Education
190-762 Thesis - Industrial Technology Education

Preparation Basic to Program

190-763 History, Philosophy of Technology Education
190-764 Foundations in Philosophy of Technology Education
190-765 Issues in Technology Education
190-766 Values of Technology Education
190-767 Philosophy of Modern Education
190-768 Social Thought of Modern Education
190-769 Advanced Technology of Learning
190-770

Cluster 1: Foundations in Philosophy of Technology Education

190-763 History, Philosophy of Technology Education
190-764 Foundations in Philosophy of Technology Education
190-765 Issues in Technology Education
190-766 Values of Technology Education
190-767 Philosophy of Modern Education
190-768 Social Thought of Modern Education
190-769 Advanced Technology of Learning
190-770

Cluster 2: Facilitation and Management of Learning

190-771 Technical/Workshop Planning Laboratory
190-772 Activities in Technology Education
190-773 Organization and Management of Technical Education
190-774 Learning Style Theory and Application
190-775 Teaching Strategies
190-776 Classroom Key competencies
190-777

Cluster 3: Evaluation

190-778 Education Evaluation
190-779 Program Evaluation
190-780 Technical Research
190-781 Problems in Technical Area
190-782

Cluster 4: Curriculum and Program Development

190-783 Instructional Development
190-784 Implementing Technology Education
190-785 Course Construction
190-786 Curriculum Innovations in Technology Education
190-787 Adult Education
190-788 Curriculum Theory and Practice
190-789

Cluster 5: Adult Education

190-789 Curriculum Theory and Practice
190-790 Adult Education
190-791 Curriculum Innovations in Technology Education
190-792 Course Construction
190-793 Implementing Technology Education
190-794 Instructional Development
190-795 Technical Research
190-796 Problems in Technical Area
190-797

1. Understand the history, issues and philosophy of industrial/technology education.
2. Develop or expand competence in curriculum development.
3. Understand and apply learning theory to develop teaching strategies suitable for teaching in classroom and laboratory or work settings.
4. Develop effective interpersonal relationship skills.
5. Develop or expand the ability to organize, manage and maintain an industrial/technology education laboratory or work environment.
6. Design and use evaluation instruments/procedures.
7. Develop or expand competence in technical areas suitable for teaching industrial/technology education.
8. Understand and be able to utilize information gained from technical and educational research.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree in industrial education technology education (or equivalent) from an accredited college and have an overall grade point average of at least 2.75. In addition, the applicant should have an undergraduate major in industrial arts education technology education or its equivalent. This assumes preparation and certification for eligibility for certification for teaching industrial arts or technology education. A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, completion of program completion and the following program-specific processes: program application, degree candidacy, and intent to graduate.

MANAGEMENT TECHNOLOGY

Dr. Zenon Smolarek, Program Director, 115 Technology Wing – Jarvis Hall, 715/232-1144

Introduction

Master of Science Degree. This program provides educational experiences that prepare graduates for management and staff positions in business and industry. The students select an operational specialty area depending on their professional goals, educational background and available faculty expertise. Operational specialties such as industrial/operations management, quality management, manufacturing management, facilities management, communication system management, construction management, graphic arts management, packaging and industrial training may be developed. Learning experiences in the immediate professional setting include advanced technical problems and the field project.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college, have an overall grade point average of at least 2.75 and have the equivalent of two years of appropriate work or military experience.

Prerequisite courses may be prescribed upon evaluation of undergraduate transcripts if the student does not have a strong background in production management, marketing, accounting, engineering economy, statistics, computer programming, personnel management, and in at least four technical areas.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; diagnostic (150-720); degree candidacy; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better, a minimum of 15 credits must be in courses open only to graduate students – 700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Professional Foundations

12 credits

150-700	Systems Analysis and Design	3
150-710	Seminar in Industrial Operations	2
150-720	Foundations in Industrial Operations*	2
150-740	Introduction to Decision Theory	3
150-760	Corporate Planning	2

Leadership

Minimum of 5 credits

150-600	Organizational Leadership	3
150-660	Industrial Management	2
150-750	Organizational Development	3
160-679	Marketing Research	3
160-690	Administrative and Business Policies	3
212-535	Seminar on Self-Growth	2
320-720	Labor and Industrial Relations	2
413-752	Group Dynamics	2
421-830	Educational Administrative Behavior	3
459-717	Occupational Analysis and Information	2
479-570	Assertive Training Procedures	2
479-579	Public Relations	2
479-581	Industrial Psychology	2
479-679	Advanced Public Relations	2
479-760	Personality	2

Operational Specialty

Minimum of 9 credits

The following courses are typical of those taken by students that specialize in industrial management or construction management.

130-504	Communication and Information Systems	2
130-505	Office Automation Technology	3
130-507	Artificial Intelligence	2
140-583	Voluntary OSHA Compliance	2-3
140-587	Human Factors Engineering	3
140-782	Safety Management	3
150-505	Production and Inventory Control	3
150-510	Production Processing	3
150-520	Quality Assurance	3
150-525	Quality Management	3
150-530	Materials Handling	3
150-540	Time and Motion Study	3
150-550	Plant Layout	3
150-650	Introduction to Operations Research	4
150-730	Advanced Technical Problems-Industrial Management	2-6
181-504	Computer Aided Manufacturing	3
181-505	Robotics	2
181-508	Industrial Metrology	3
181-510	Manufacturing Systems	3
181-511	Production and Transfer Tooling	3
181-515	Metallurgy	3
181-537	Numerical Control in Manufacturing	3
181-540	Design and Simulation of Manufacturing Cells	3
182-538	Building Construction Specifications	2
182-570	Estimating and Analyzing Construction Costs	3
182-639	Land Use Planning	3
182-670	Systems Approach to Construction Management	3
183-620	Research and Development	2
183-636	Computer Assisted Design Problems	2
184-530	Artificial Intelligence Applications	3

Culminating Integrative Experience

Minimum of 2 credits

150-780	Problems in Management Technology or	
150-790	Field Project**	2-4

*A faculty tutor is assigned to guide students' self-development program. Strengths and deficiencies are identified and the student culminates the experience with both written and oral matriculation to candidacy examinations.

**Required of students who do not have a minimum of two year's experience in the area of their operational specialty. May be selected by students who do have a minimum of two year's experience in the area of their operational specialty.

MARRIAGE AND FAMILY THERAPY

Dr. Charles Barnard, Program Director, Health Center, 715/232-2404

Introduction

Master of Science Degree. The offerings are designed to develop specific competence in the following areas of marriage and family therapy: therapy services, consultation, coordination, referral, psychometric assessment and evaluation, ethics and related issues, and research design and procedures. This program is designed to prepare people for work in settings such as mental health clinics, family life agencies, hospitals, industry, schools and/or private practice. The core of the program is experientially and practically orientated. This program is fully accredited by the American Association for Marriage and Family Therapy.

Learning experiences in the immediate professional setting include marriage and family therapy practicums.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. Applicants may be admitted on probationary status if their overall grade point average is at least 2.25, but less than 2.75. Applicants who have less than a 2.25 overall grade point average, but have relevant work experience since receiving the bachelor's degree and who are otherwise judged qualified as indicated below, may qualify for admission by taking a full credit load of selected graduate courses during the summer session or regular session and attaining a 3.0 grade point average.

It is recommended that the applicant have an undergraduate degree with major emphasis in one of the behavioral sciences or a closely related field. Applicants with deficiencies may be required to take additional undergraduate or graduate courses prior to attaining full status in the program. Students must complete the admissions process no later than March 15 of the year enrollment is planned. Both a Graduate College application form (*obtainable from the Graduate Office*) and program application forms (*obtainable from the office of the program director*) are required. Completion of the admission process means that all required admission documents must be in the Graduate Office and program admission documents must be in the program director's office prior to March 15.

When the number of students applying exceeds the number that can be accommodated, students will be admitted on the basis of academic performance and other factors appropriate for consideration including:

1. Work experience in a helping profession, i.e., counseling, social work, psychology, agency work, clergy and education.
2. Letters of recommendation from employers and consumers of services provided by the applicant. (*Request these forms from the program director.*)
3. Ratings of the individual as determined by a screening committee and process evaluation.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; admissions interview; applicant's goals; practicum evaluation; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of the 60-credit curriculum or demonstrated competence in the 60-credit curriculum with completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Professional Foundations

9 credits

212-715	Theories of Family Process	2
413-765	Counseling Theory	2
479-561	Abnormal Psychology	3
479-760	Personality Theory	2

Research Component

6 credits

421-740	Research Foundations	4
500-735	Investigations in Marriage and Family Therapy	2

Basic Preparation

40 credits

212-653	Relationship Communication Training	2
212-750	Systems of Marriage and Family Therapy	3
212-751	Marriage and Family Therapy Seminar	3
212-755	Professional Issues in Marriage and Family Therapy	3
212-760	Sex Therapy Seminar	2
212-764	Marriage and Family Therapy Prepracticum Seminar	1
212-793	Marriage and Family Therapy Practicum	4
212-794	Marriage and Family Therapy Practicum	4
303-610	Anthropological Study of Family Systems	3
413-666	Alcoholism and Family Systems Intervention	2
413-744	Psychometric Aids to Marriage and Family Therapy	2
413-763	Marriage and Family Therapy Prepracticum Seminar	1
413-793	Marriage and Family Therapy Practicum	4
413-794	Marriage and Family Therapy Practicum	4
413-795	Marriage and Family Therapy Practicum	2
XXX-XXX	Any approved electives	5

MEDIA TECHNOLOGY

Dr. Roger Hartz, Program Director, 150 Communication Technologies Building, 715/232-1202

Introduction

Master of Science Degree. This program is designed to prepare the student for a professional career in media technology. At the completion of the program, the student will be qualified to plan, produce and utilize materials; to teach courses in media technology; and to develop, supervise and administer media programs in education, industry and government.

Learning experiences in the immediate professional setting include the media technology internships, instructional development practicum and a variety of graduate assistantships.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

Students planning to seek certification and employment in the media area in Wisconsin elementary and secondary schools must possess a valid teacher's certificate or sufficient credits to qualify for a teaching certificate.

This program is designed so that at least one of a variety of advisement patterns can be developed within the framework of the Media Technology graduate degree program. Beyond preparation in research and the core courses, students will choose, in consultation with the program director, an advisement pattern supporting their work-role/life-role goals and select course work which will prepare them for such roles as media specialist, instructional designer, media consultant and media manager.

Prior to full admission to the master's degree program, the student must show evidence of an appropriate professional and technical background and may need to complete additional undergraduate work in the areas of audiovisual communications, photography, human relations, business management, financial accounting and marketing. The need to take additional deficiency credits may add to the length of time required to complete the degree program. Some graduate work may be taken concurrently, but ordinarily the undergraduate deficiency credits will take first priority. The student cannot be admitted into degree candidacy until all deficiency credits are completed. A grade of "B" or better is required in all deficiency courses.

Finally, the student must show evidence of being able to use a computer for word processing, data base management, spreadsheet analysis and other productivity applications. Students without prior computer course work or extensive on-the-job experience with computers must include a minimum of one computer applications course in their program plan.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: student advisement; degree candidacy; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of at least 32 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level and above; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined below:

Required Core Courses

11 credits or verified previous competence

120-561	Advanced Graphic Production	2
120-630	Audio/Film/TV Production Fundamentals	3
120-740	Instructional Development	2
120-760	Managing Media Services	3
120-790	Seminar: Media Technology	1

Required Research Preparation

7-11 credits

120-718	Introduction to Problems in Media Technology	1
120-722	Problems in Media Technology or	
120-770	Thesis: Media Technology	2-6
421-740	Research Foundations	4

Selective Theory Preparation

2-3 credits

Choose one of the following:

198-560	Training Systems in Business and Industry	3
199-534	Task Analysis	2
421-685	Psychology of Adult Education	2
421-738	Elementary School Curriculum	3
421-739	High School Curriculum	2
421-750	Curriculum Theory and Practice	2-3
421-811	Structuring Knowledge	2
479-581	Industrial Psychology	2
479-730	Advanced Psychology of Learning	2
XXX-XXX	Any approved elective	

Professional Electives

Minimum of 9 credits selected from the following courses or comparable courses

120-570	Introduction to Computer-Assisted Instruction	2
120-580	Microcomputer Applications: Words/Data	2
120-605	Advanced Photography	2
120-625	Broadcast TV Production Internship	1-4
120-640	Telecommunication Systems and Teleconferencing	2
120-645	Color Photography	2
120-655	Slide/Tape and Multi-Image Production	2
120-716	Media Selection and Evaluation	3
120-732	Planning Media Facilities	2
120-780	Microcomputers in Media Centers	2
120-788	Media Technology Internship	1-8
120-799	Independent Study	1-2
130-504	Communications and Information Systems	1-3
195-532	Futures of Technology or	
195-733	Impacts of Technology	2
326-535	Writing Technical Manuals	3
326-601	Juvenile Fiction Seminar	1-3
391-508	Speaking Skills for Business and Industry	2
479-579	Public Relations	2
XXX-XXX	Any approved elective	
XXX-XXX	Internship	

Personnel/Management Electives

Minimum of 3 credits from the following courses or comparable courses approved by the program director

150-502	Time Management	1
150-600	Organizational Leadership	3
150-630	Quality Circles	2
421-702	Principles of Supervision	2-3
421-726	Administration	2-3
479-570	Assertive Training Procedures	2
479-582	Human Resource Management	3
479-673	Psychology of Stress	2
XXX-XXX	Any approved elective	

SAFETY

Dr. John Olson, Program Director, 205 Communications Center, 715/232-2604

Introduction

Master of Science Degree. This program is designed for flexibility to meet both the personal and professional needs of the student. Through advisement, students may prepare for positions in occupational/industrial loss control.

Instructional efforts are directed to experiences that will provide students the capability to work effectively in their professional setting and to conduct applied research in various safety, health, and environmental loss control areas.

Applied learning experiences in the immediate professional setting include field problems in accident prevention and loss control, independent study in occupational safety/health, and occupational safety/health internship.

Admission

To be admitted to this program with full status, the applicant must hold a bachelor's degree from an accredited college with an overall grade point average of at least 2.75. In addition, the applicant must have appropriate academic preparation in a scientific, technical and/or related area. Professional, industrial/trade or educational experience is recommended prior to enrollment in the program.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree. An individual program of study will be designed by the program director and the student to accommodate the professional/student needs.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; applicant's goals; program plan; admissions interview; related work experience; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution as outlined to the right:

Applied Research and Development

Select One:

150-700	System Analysis and Design	3
421-740	Research Foundations	4

Select One:

140-770	Thesis-Safety	6
140-783	Field Problem in Accident Prevention/Loss Control	3

Required Professional Preparation

5-8 credits

140-771	Foundations in Safety	3
140-781	Risk Management in Loss Control	3
140-782	Safety Management	3
140-785	Seminar in Safety	2

Select One:

140-575	Behavioral Approach to Accident Prevention	3
150-600	Organizational Leadership	3

Elective Professional Preparation

120-560	Audiovisual Communications	2
120-561	Advanced Graphic Production	2
140-574	Alcohol, Drugs and Accident Prevention	3
140-575	Behavioral Approach in Accident Prevention	3
140-580	Driver Education for the Handicapped	2
140-581	Occupational Safety/Loss Control	3
140-583	Voluntary OSHA Compliance	2-3
140-584	Safety Engineering Standards	2
140-586	Fire Protection/Prevention	3
140-587	Human Factors Engineering	3
140-588	Construction Safety	2
140-589	Fleet Safety Management	2
140-590	Product/Service Liability	2
140-700	Semiconductor Loss Control	1
140-784	Safety Internship	4-6
140-799	Independent Study in Safety	1-3
312-542	Industrial Hygiene	3
312-652	Hazardous Waste Management	3
312-710	Industrial Hygiene Instrumentation	2
312-762	Industrial Hygiene Ventilation and Noise	3
320-720	Labor and Industrial Relations	2
391-512	Speech Skills for Educators	2
413-721	Alcohol and Drug Abuse Treatment Programs	3
413-752	Group Dynamics	2
413-760	Theories and Techniques of Behavior Modification	2
421-702	Principles of Supervision	2
479-582	Human Resource Management	3

Preparation for Further Development

150-740	Introduction to Decision Theory	3
150-750	Organizational Development	3
160-601	Legal Environment of Business	2
160-690	Administrative and Business Policies	3
195-733	Impacts of Technology	2
199-534	Task Analysis	2
199-674	Adult Education	2
311-553	Environmental Chemistry	3
421-685	Psychology of Adult Education	2

SCHOOL PSYCHOLOGY

Dr. Calvin Stoudt, Program Director, 237F Harvey Hall, 715/232-1442

Introduction

Programs available: Master of Science in Education, Provisional School Psychologist Certification and School Psychologist Certification.

Master of Science in Education. The school psychology program at Stout is a combined degree and certification program. The degree program occupies the first year of study on campus and leads to a master of science in education degree. The certification program follows the degree program and leads to school psychologist certification which is awarded, upon University recommendation, by the Wisconsin Department of Public Instruction or, if the applicant leaves Wisconsin, by the certifying agency of the state to which application is made. Admission to the degree and certification programs are separate processes, which include an admissions committee review of the admission material submitted by each applicant as described below.

Degree Program Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. Applicants may be admitted as an exception on probationary status if their overall grade point average is at least 2.25, but less than 2.75. These exceptions are subject to a strict limit of 10 percent of the students in the program and must be individually negotiated with the recommendation of the program director and the approval of the Graduate College.

Applicants should have an undergraduate degree with major emphasis in one of the behavioral sciences or a closely related field. As part of the preparation for entry to the master's degree program, a minimum of 15 credits in psychology and/or education courses in the following areas is required: developmental psychology, behavior disorders, personality, learning and/or statistics. The applicant with insufficient background may be required to take specific undergraduate courses in these areas in addition to those required within the graduate program.

Both the Graduate College Application form (*obtainable from the Graduate College*) and a Program Application form (*obtainable from the program director*) must be submitted by each applicant, including the documents identified on these two forms. Applicants must have presented and filed all required admissions documents by March 15 of the year enrollment is planned. After committee review, notification of acceptance will be made by April 15. If openings exist after this date, late applications will be accepted until June 15, with notification by July 15. When program openings occur, after the June 15 date, the program director and the committee will determine whether these applications may be acted upon for admission during the fall or winter term, or whether it may be necessary to hold admission until the next March 15 application deadline. In any event, the process for selecting applicants will be strictly followed in each and every case.

Students will be admitted on the basis of academic performance, admissibility to the Graduate College and rankings of a screening committee. These rankings are based on:

1. Work experience in a helping profession, i.e., counseling, social work, psychology and volunteer activities.
2. Letters of recommendation from employers, instructors and consumers of services provided by the applicant.
3. An autobiographical statement in which the applicant has outlined interest, intent and goals regarding the profession of school psychology.
4. A personal or telephone interview with the school psychology program director and faculty.

Certification Program Admission

Admission to the degree program does not ensure admission to the certification program. Rather, admission to the certification program occurs after members of faculty have had opportunity to observe the student's progress and to evaluate performance.

Application occurs after the student has maintained at least a 3.0 grade point average, has attained a grade of "B" or better in 413-788 Counseling Process Laboratory, and is either currently maintaining grades of "B" or better or has completed, with grades of "B" or better, each of the following courses: 489-743 Advanced Individual Mental Testing; 489-768 Diagnosis and Remediation of Learning Disabilities; 489-768A Learning Disabilities-Diagnosis and Remediation; and 413-790 Supervised Counseling Practicum.

Application materials may be obtained from the program director. The process includes the submission of letters of recommendation by two UW-Stout faculty members who are also certified school psychologists and from the counseling practicum supervisor. It also requires successful completion of a comprehensive examination given during the first week of summer school. Upon the basis of this information, a screening committee will recommend either admission to the certification program or termination from the certification program.

Practicing professionals who already possess an appropriate master's degree may wish to seek school psychologist certification only. Such individuals must also apply for admission to the certification program and to the Graduate College. To be considered for admission to the certification program, such applicants must be admitted to the Graduate College; provide three letters of recommendation from past employers and consumers of services; enroll for one term (*summer session will suffice*) in courses recommended by the program director; complete all aforementioned courses with a minimum of "B"; make application to the screening committee; and successfully complete the required comprehensive examination.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: applicant's goals; counseling process laboratory; and practicum evaluation.

Requirements

The program outlined below includes all requirements for provisional school psychologist and school psychologist certification. Completion of the degree will require the completion of a minimum of 30 credits and the inclusion of all courses below marked with an asterisk. Credits earned toward the degree must meet a grade point average of 3.0 or better. A minimum of 15 credits must be in courses open only to graduate students – 700 level. Students must be approved for degree candidacy at the appropriate time.

All courses listed below are required for provisional school psychologist certification. However, students who have taken any of the psychology courses at the undergraduate level will not be required to repeat these courses at the graduate level. The minimum number of graduate credits required to be recommended for certification as a provisional school psychologist is 55; for school psychologist, 60 credits.

Psychological Foundations

421-740	Research Foundations*	4
479-251	Child Psychology (<i>undergraduate credit only</i>) and	
479-552	Adolescent Psychology <i>or</i>	
479-850	Psychology of Development	3
479-530	Psychology of Learning <i>or</i>	
479-730	Advanced Psychology of Learning	2-3
479-561	Abnormal Psychology	3
479-760	Personality	2
489-753	Psychometric Theory and Application*	2
489-731	Problems in School Psychology* <i>or</i>	
489-770	Thesis in School Psychology <i>or</i>	
500-735	Investigations	2-6

Educational Foundations

421-536	Multiculturalism: Issues and Perspectives	2
421-576	Field Experience – Cross Cultural Experience	1
421-702	Principles of Supervision <i>or</i>	
421-726	Administration	2
421-738	Elementary School Curriculum <i>or</i>	
421-750	Curriculum Theory and Practice	2
431-630	Mainstreaming Special Students	3

Core Professional Training

212-545	Exceptional Needs and Programming–Early Childhood	3
413-675	Counseling Theory	2
413-705	Play Therapy	2
413-752	Group Dynamics	2
413-760	Theories and Techniques of Behavior Modification	2
413-788	Counseling Process Laboratory*	3
413-790	Supervised Counseling Practicum*	3
489-701	Seminar in School Psychology Services*	2
489-743	Advanced Individual Mental Testing*	2
489-745	Assessment of Personality (<i>Projective Techniques</i>)	2
489-753B	Lab – School Psychology*	1
489-766	Educational Applications of Neuropsychology	2
489-768	Diagnosis and Remediation of Learning Disabilities *	2
489-768A	Learning Disabilities–Diagnosis and Remediation *	1
489-778	Psychoeducational Disability*	3
489-781	Field Practicum in Psychoeducational Services I	3
489-782	Field Practicum in Psychoeducational Services II	3
489-784	Clinical Practicum in Psychoeducational Services I	2
489-785	Clinical Practicum in Psychoeducational Services II	2

A minimum of 60 credits required for certification as a school psychologist.

*Required course

Degree Without Certification

Students who do not intend to work in the schools as school psychologists but who are interested in the mental health field where a preparation emphasizing disabilities, assessment, diagnosis and counseling would be desirable, may elect to complete the degree only. This may be completed in one calendar year. Students choosing this option must take the required degree courses as indicated in the previous column and electives to total a minimum of 30 credits.

Preparation for Further Development

Persons preparing to teach will select advanced courses in their subject field. This bulletin lists graduate level technical courses, which are available for graduate credit in certain individual situations. Students are urged to investigate advanced subject matter courses suitable to their particular teaching field; in some teaching areas, it may be desirable to transfer them from another institution. However, prior approval to take any course should be obtained.

VOCATIONAL EDUCATION

Dr. Leonard Sterry, Interim Program Director, 406 Harvey Hall, 715/232-1367

Introduction

Master of Science Degree. The graduate program in vocational education is designed to increase the professional competence of those who plan to serve in a high school or post high school program as a teacher, coordinating teacher, coordinator, supervisor, local vocational education coordinator or administrator of vocational education. Learning experiences in the immediate professional setting include: internship, outreach courses and independent study.

Admission

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75.

Applicants with undergraduate degrees and certification in the various subject areas of vocational-technical education are generally eligible.

Applicants with appropriate subject matter backgrounds, but who do not have the required professional education, will need to complete, for undergraduate credit, at least one appropriate methods course. This should be completed early in the program.

Applicants for the emphasis in Local Vocational Education Coordination (LVEC) must complete, for undergraduate credit, a course in the principles, issues and/or philosophy of vocational-technical education. (*Request additional admission information from the program director for the LVEC emphasis.*)

Prior to the awarding of the degree, the student must present evidence of the necessary amount and kind of occupational experience as specified by the appropriate state certifying agency.

A deficiency in these admission requirements does not preclude admission, but it may require completion of additional undergraduate work and/or increase the amount of graduate credit required to earn the degree.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: application; and degree candidacy.

Requirements

The requirements for this degree include: (a) completion of at least 30 semester hours of graduate credit with an overall graduate grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level; (b) approval for degree candidacy at the appropriate time; and (c) a course distribution which is outlined as follows:

Preparation in Research

6-10 credits

190-739	Introduction to Problems in Industry/Technology	1
199-736	Problems in Vocational Education or	
199-770	Thesis—Vocational Education or	
199-784	Internship—Local Vocational Education Coordinator (for LVEC only)	2-8
421-740	Research Foundations	4

Concentrations

Teaching (20-24 credits)

199-502	Principles of Vocational, Technical and Adult Education	2
479-730	Advanced Psychology of Learning	2

Select one:

195-532	Futures of Technology	2
421-700	Philosophy of Modern Education	2
421-705	Social Thought of American Educators	2

Plus, appropriate courses in the teaching/learning process.

Administration (20-24 credits)

199-502	Principles of Vocational, Technical and Adult Education	2
479-730	Advanced Psychology of Learning	2

Select one:

195-532	Futures of Technology	2
421-700	Philosophy of Modern Education	2
421-705	Social Thought of American Educators	2

Plus, appropriate courses in administration.

Local Vocational Education Coordination (18-26 credits)

This emphasis is the certification program for Local Vocational Education Coordinators in Wisconsin; similar positions exist in other states.

199-560	Cooperative Occupational Education Programs	2
199-710	Coordination and Supervision of Vocational Education or	
413-691	Theories of Career Development	2
413-737	Curriculum and Methods in Career Education	2
421-702	Principles of Supervision	2
421-726	Administration	2
421-733	Survey Procedures	2
421-750	Curriculum Theory and Practice	2
479-579	Public Relations	2
489-753	Psychometric Theory and Application	2

Marketing Education (4 credits)

196-701	Issues in Vocational Marketing Education	2
196-702	Improving Marketing Education Methods/Materials	2

Special Needs (20-24 credits)

199-502	Principles of Vocational, Technical and Adult Education	2
199-710	Coordination and Supervision of Vocational Education	2
431-630	Mainstreaming Special Students	3
431-700	Special Needs Learners in Vocational Education	2
431-725	Programing for Vocational Special Needs	2
431-790	Special Education Seminar	2
479-730	Advanced Psychology of Learning	2
<i>Select 5-9 other credits from the following:</i>		
195-733	Impacts of Technology	2
199-534	Task Analysis	2
199-560	Cooperative Occupational Education Programs	2
199-746	Seminars	2
199-780	Internship in Vocational Education	4-8
199-792	Administration of Vocational, Technical and Adult Education	2
421-536	Multiculturalism: Issues and Perspectives	2
431-516	Psychology of the Exceptional Child	3
431-518	Clinical Experience with Handicapped	2
431-595	The Gifted Student	2
431-526	Practicum in Special Education	2
431-662	Classroom Management Techniques	3
459-723	Procedure of Work Evaluation	3

Preparation for Further Development

The student should confer with the program adviser in choosing the elective credits to complete the 30-hour degree requirements. There is considerable flexibility in the program with regard to electives, and they may be taken as needed to fulfill the individual goals and objectives of the student. Generally, if appropriate to your goal, electives may be chosen from your technical field (see last paragraph) and from among the following courses:

120-560	Audiovisual Communications	2
120-740	Instructional Development	2
150-600	Organizational Leadership	3
195-733	Impacts of Technology	2
199-534	Task Analysis	2
199-560	Cooperative Occupational Education Programs	2
199-710	Coordination and Supervision of Vocational Education	2
199-746	Seminars in Vocational Education	2
199-780	Internship in Vocational Education	4-8
199-792	Administration of Vocational, Technical and Adult Education	2
320-720	Labor and Industrial Relations	2
354-640	Computer Use in Education	3
354-741	Computer Programming Techniques	2
387-540	Sociology of Work	3
391-512	Speech Skills for Educators	2
413-501	Introduction to Guidance	2
421-641	Education Evaluation	2
421-702	Principles of Supervision	2
421-705	Social Thought of American Educators	2
421-714	Teaching Strategies	4
421-726	Administration	2
421-733	Survey Procedures	2
421-739	High School Curriculum	2
421-742	Program Evaluation	2
421-750	Curriculum Theory and Practice	2
479-579	Public Relations	2

Persons preparing to teach will select advanced courses in their subject field. This bulletin lists graduate level technical courses, which are available for graduate credit in certain individual situations. Students are urged to investigate advanced subject matter courses suitable to their particular teaching field; in some teaching areas, it may be desirable to transfer them from another institution. However, prior approval to take any course should be obtained.

VOCATIONAL REHABILITATION

Ms. Shirley Stewart, Program Director, 403 Education and Human Services Building, 715/232-2499

Introduction

Master of Science Degree. Concentrations in this program include vocational evaluation, work adjustment rehabilitation counseling and rehabilitation facility administration. This program is designed to develop specific and general competencies required of specialists in the areas of vocational evaluation, work adjustment, rehabilitation counseling or rehabilitation facility administration. The master of science degree program with a concentration may be completed in 12 months plus a summer session by successful students (40-48 credits). Exceptions to program requirements may be requested by students upon successful demonstration of skills. Exceptions are ordinarily processed through the course instructor, program director and school dean. Students may elect to extend the time enrolled if they prefer to progress at a slower pace or if they prefer to become qualified in more than one concentration. Part-time students are accommodated, although some concentrations will require at least one semester of full-time study.

Learning experiences in professional settings include practicum experience and internship experience. The option to focus on a particular rehabilitation setting (*independent living, community based, rehabilitation facility, and private sector*) is available.

Admission

Entrance into the program requires the unanimous vote of approval by the Vocational Rehabilitation Admissions Committee. Approval will be dependent upon:

1. demonstrated potential for successful academic achievement at the graduate level;
2. interest in working with people with disabilities;
3. personal and social characteristics necessary to work with people with disabilities, such as personal and social maturity and a combination of patience, empathy and understanding;
4. ability to work independently; and
5. ability to carry out professional responsibilities. *In addition, applicants to the rehabilitation facility administration concentration must have two years of paid work experience in rehabilitation services or business management.*

The decision for admission or denial of admission by the Vocational Rehabilitation Program Admissions Committee will be based on the criteria above with information obtained from records of undergraduate and/or other graduate academic attainment, letters of reference from a minimum of three persons who are familiar with the applicant in work or educational settings, information provided on the program application form, and other data and information received by the committee. The committee may require an interview in any case where information submitted is insufficient for rendering a decision.

To be admitted with full status to this program, the applicant must hold a bachelor's degree from an accredited college and have an overall grade point average of at least 2.75. Applicants may be admitted on probationary status if their overall grade point aver-

age is at least 2.25 but less than 2.75. Applicants who have less than a 2.25 overall grade point average, but have related work experience since receiving their bachelor's degree, may qualify for admission by taking a trial block of courses prescribed by the program director in which a "B" or better must be earned to gain admission to the program on probation. Work earned on trial status will normally be in addition to the usual degree requirements.

Students from a variety of educational backgrounds are eligible for admission. Applicants with degrees such as vocational rehabilitation, psychology, sociology, business, industrial technology, vocational education, special education, occupational therapy, physical therapy, communication disorders, recreational therapy and social work can find appropriate applications within the program. Although a specific educational background is not required, the applicant's transcripts will be evaluated to determine if deficiency work at the undergraduate level, or additional graduate work, will be required to earn a degree. Deficiency requirements may differ among the various concentrations.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: program application; practicum evaluation; internship evaluation; degree candidacy; and intent to graduate.

Requirements

The requirements for this degree include: (a) completion of a minimum of 30 semester hours of graduate credit with an overall grade point average of 3.0 or better; a minimum of 15 credits must be in courses open only to graduate students - 700 level; (b) a minimum grade of "B" or better in laboratory, practicum and internship courses; (c) approval for degree candidacy at the appropriate time; and (d) a course distribution as outlined for the specific concentration.

Professional Core

20-24 credits

421-740	Research Foundations	4
459-558	Support Systems Networking	2
459-585	Rehabilitation and Mental Retardation	2
459-6XX	Community Based Services	2
459-700	Seminar in Vocational Rehabilitation	1
459-703	Physical Disability and Work	3
459-717	Occupational Analysis and Information	2
459-737	Rehabilitation and Psychiatric Disability	2
459-755	Problems in Vocational Rehabilitation or	
459-770	Thesis in Vocational Rehabilitation	2-6

Concentrations

Vocational Evaluation (26 credits)

459-610	Psychological Testing – People With Exceptional Needs ...	2
459-670	Work Adjustment Services or	
459-688	Advanced Job Placement	2
459-680	Principles of Rehabilitation Counseling	3
459-706	Laboratory in Vocational Evaluation	2
459-707	Practicum in Vocational Evaluation	4
459-723	Procedures of Vocational Evaluation	3
459-783	Internship in Vocational Evaluation	4-8

Work Adjustment (22 credits)

413-760	Theories and Techniques of Behavior Modification	2
429-670	Work Adjustment Services	3
459-680	Principles of Rehabilitation Counseling	3
459-688	Advanced Job Placement	2
459-709	Practicum in Adjustment Services	3
459-723	Procedures of Vocational Evaluation	3
459-789	Internship in Adjustment Services	6

Rehabilitation Counseling (24 credits)

413-788	Counseling Process Laboratory	3
459-610	Psychological Testing – People With Exceptional Needs ...	2
459-680	Principles of Rehabilitation Counseling	3
459-685	Group Processes in Rehabilitation Settings	2
459-688	Advanced Job Placement	2
459-708	Practicum in Rehabilitation Counseling	3
459-723	Procedures of Vocational Evaluation	3
459-787	Internship in Rehabilitation Counseling	6

Rehabilitation Facility Administration (24-25 credits)

140-581	Occupational Safety/Loss Control or	
140-781	Principles of Safety and Loss Control or	
140-782	Safety Management	2-3
150-600	Organizational Leadership or	
479-582	Human Resource Management	3
459-587	Management of Employees with Disabilities	3
459-705	Practicum in Rehabilitation Facility Administration ...	3
459-780	Administration in Vocational Rehabilitation	2
459-785	Internship – Rehabilitation Facility Administration ...	6
479-579	Public Relations	2

Degree Without Concentration

Students applying to the master of science program in Vocational Rehabilitation, without a specific concentration, are required to submit their personal program objectives as part of the program application process. These will be used to determine if the program will be beneficial in helping students reach their objective and as an aid in developing the individual's program plan.

Preparation for Further Development

With the advice and approval of the program director, students will select courses compatible with their educational preparation, interests and objectives.



EDUCATION SPECIALIST DEGREE PROGRAMS

GUIDANCE AND COUNSELING

Dr. Carlyle W. Gilbertson, Program Director, 237B Harvey Hall, 715/232-2182

Introduction

The Education Specialist degree in guidance and counseling is an advanced degree requiring 36 semester credits beyond the master's degree.

The program is for people who have a master's degree in guidance and counseling or in one of the related helping professions. It is designed to enable the student to develop beyond the master's degree level those competencies required in the broad area of guidance, counseling, psychological services or related helping services.

Admission

Persons interested should contact the program director. Students seeking admission to the program should complete the following at least 30 days prior to the opening of the term in which they plan to begin their program and submit all materials directly to the Graduate College.

1. File an application for admission to the Ed.S. program.
2. Submit a current vita listing all pertinent biographical and educational data.
3. Present official transcripts of all college and university work completed certifying award of bachelor's and master's degrees. Master's degree work must be in guidance and counseling or an equivalent field with a cumulative grade point average of at least 3.25 on a 4.0 scale in all graduate work. Transcripts need not be submitted for work completed at UW-Stout.
4. Evidence of at least two years of successful professional experience or the equivalent is desirable and letters attesting to such experience or professional promise should be requested from two appropriate persons.

After committee review of the application data and upon recommendation for admission, the Graduate College will:

1. Assign program status and inform the student of it immediately.
 - a. Full status will be granted to those who meet all admission requirements.
 - b. Provisional status may be granted to those who do not fully qualify on some requirements. At the conclusion of the first term of enrollment, the status will be re-evaluated.
 - c. Admission will be denied students whose qualifications do not meet the requirements and if the admissions committee decides provisional status is not warranted. The appropriateness for this program of an applicant's goals will be considered in the decision to admit or not.
2. Assign an adviser to assist in developing a degree program and registering for the first term.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: applicant's goals; supervisory committee; application for degree candidacy; and final oral examination.

Degree Program Supervision

For the first enrollment, the program director will aid the student in developing a class schedule in keeping with degree requirements. After completing a minimum of six credits, prior to enrolling for a second term, the Graduate College will appoint a Supervisory Committee which has been developed by the student and recommended by the program director. This committee will consist of a chairperson and two to four members of the graduate faculty.

This committee will help the student prepare a total program plan in keeping with the degree requirements and the student's special needs. It is desirable for this plan to be completed before enrollment for a second term. The committee will also approve and supervise the student's field study, administer a comprehensive examination and recommend the awarding of the degree.

Requirements for the Ed.S. Degree

Prior to the award of the Ed.S. degree, the following requirements must be met.

1. Completion of an approved degree program with an overall grade point average of at least 3.25.
2. Filing of an Intent to Graduate form at least seven weeks prior to the expected graduation date.
3. Completion of a comprehensive written and/or oral examination, at least three weeks prior to graduation.
4. Filing of an approved field study report and abstract at least one week prior to graduation.
5. Recommendation for the degree by the supervisory committee.

Transfer of Credit

A maximum of 12 semester hours of graduate credit may be transferred from other accredited graduate institutions to meet the requirements of the Ed.S. degree. It must be appropriate to the degree program and awarded by an institution accredited for graduate level work. All credit to be counted toward the degree must have been completed within seven years of the date the degree is awarded.

Curriculum

Content for the advanced degree program will be drawn from three bodies of knowledge: foundations, research and professional study. Selection of these three components is based on the assumption that the holder of an advanced degree should be a practicing professional, capable of solving problems through applied research techniques, and a scholar in his profession.

The three components are shown below with a listing of the required courses for the program. The 700-level numbered courses are open to all graduate students. The 800-level numbered courses are intended primarily for post-master's degree work.

Program Plan

To qualify for the Ed.S. degree, the student must earn not less than 36 semester credits beyond the master's degree which will be distributed as follows; selectives will be planned with the program adviser and supervisory committee to ensure the most appropriate program for each student.

Foundations

9-10 credits

387-710	Sociological Foundations for Guidance	3
XXX-XXX	Selectives	6-7

Research and Evaluation

3-6 credits

421-742	Program Evaluation	3
421-816	Instrumentation for Research	3

Professional

20-24 credits

413-800	Field Study	6
XXX-XXX	Selectives	14-18

Education Specialist Degree in

INDUSTRIAL AND VOCATIONAL EDUCATION

Dr. Leonard Sterry, Interim Program Director, 406 Harvey Hall, 715/232-1367

Introduction

This is a 36 semester credit program beyond the master's degree. Two concentrations are available leading to an education specialist degree in industrial and vocational education: (1) industry and technology; and (2) professional education.

The program is for those who have a master's degree in industrial arts, industrial education, technology education, vocational education or equivalent. (*Equivalency meaning agriculture, business education, distributive education, home economics education, and trade and industrial education.*)

Or, the program is for those who have a master's degree and are a certified employee of a vocational-technical institute or a community college.

Admission

Students seeking admission to the program should complete the following at least 30 days prior to the opening of the term in which they plan to begin their program.

1. File an Application for Admission to the Ed.S. program.
2. Submit a current vita listing all pertinent biographical and educational data.
3. Present official transcripts of all college and university work completed certifying award of bachelor's and master's degrees in industrial education, industrial arts education, technology education, vocational education or an equivalent field with a cumulative grade point average of at least 3.25 on a four-point scale in all graduate work. Persons having master's degrees in other fields who are certified and employed in vocational-technical education are also eligible for admission. Transcripts need not be submitted for work completed at UW-Stout.
4. Provide evidence of at least two years of successful teaching experience and professional promise by requesting letters from at least two administrators or supervisors.

The Education Specialist Degree Program Committee, comprised of graduate faculty and an Ed. S. degree student, will review the candidate's credentials and make a recommendation relative to admission to the director of the Ed.S. degree program. The committee may recommend that certain standardized examinations be completed or that the candidate be interviewed by the committee. The director of the major will recommend admission with full or provisional status to the Graduate College.

After review of the application data, the Graduate College will:

1. Assign program status and inform the student of it immediately.
 - a. Full status will be granted to those who meet all admission requirements.
 - b. Provisional status may be granted to those who do not fully qualify on some requirements. At the conclusion of the first term of enrollment, the status will be re-evaluated.
 - c. Admission will be denied students whose qualifications do not meet the requirements and if the admissions committee decides provisional status is not warranted.
2. Assign an adviser to assist in developing a degree program and registering for the first term.

Primary Evaluation Processes

The primary processes used to evaluate program and academic progress include course grades, research evaluation, certification of program completion, and the following program specific processes: application for admission; degree candidacy; and final oral examination.

Degree Program Supervision

For the first enrollment, the student's program adviser will aid in developing a class schedule in keeping with degree requirements. Prior to enrolling for a second term, the student will prepare a total program plan in keeping with degree requirements and the student's special needs.

At that time, the Graduate College will appoint a supervisory committee consisting of three members of the graduate faculty.

The committee will act on the appropriateness of the student's degree program, approve the proposed field study, administer the oral comprehensive examination and recommend the award of the degree.

Teaching Experience

This program is designed for people in education. It is felt that course work will be more significant for those who have some experience in teaching. Thus, no more than eight credits in the degree program may be completed prior to satisfying the requirement of two years of successful teaching experience.

Requirements for the Ed.S. Degree

Prior to the award of the Ed.S. degree, the following requirements will be met:

1. Completion of an approved degree program of 36 semester credits with an overall grade point average of at least 3.25.
2. Filing of an Intent to Graduate form at least seven weeks prior to the expected graduation date.
3. Completion of a comprehensive examination, written and oral, at least three weeks prior to graduation.
4. Filing of an approved field study report and abstract at least one week prior to graduation.
5. Recommendation for the degree by the supervisory committee.

Transfer of Credit

A maximum of 18 semester hours of graduate credit may be transferred to meet the requirements of the Ed.S. degree. It must be appropriate to the degree program and awarded by an institution accredited for graduate level work. All credit to be counted toward the degree must have been completed within seven years of the date the degree is awarded.

Industry and Technology Concentration

This concentration is designed for the graduate student desiring a broad educational experience leading to a professional career as a teacher of industrial and technical subjects in high schools, vocational schools, technical institutes, junior colleges and universities.

Content for the advanced degree program will be drawn from three bodies of knowledge: (a) industry and technology; (b) applied research; and (c) professional education. Selection of these three components is based on the assumption that the holder of an advanced degree should be a scholar in the discipline (*industry and technology*), capable of solution of problems through applied research techniques (*researcher*), and a practicing educator.

Curriculum

The Ed.S. degree with a concentration in industry and technology consists of three groups of courses and/or experiences as follows: industry and technology, applied research, and professional education.

The industry and technology component consists of courses basic to the science of industry and technology and a field study. This component is intended to be flexible in order to afford candidates an opportunity to broaden themselves if their prior work has been narrow, or to study in depth a particular conceptual area of industry and technology if their prior work has been broad in nature. In this component, the advanced graduate student will have the opportunity to take additional physics, chemistry, mathematics, sociology, psychology and course work to develop a level of competence in one or two conceptual areas in their substantive teaching field. The impacts of technology, a course required of all students in the program, permits the students to look at how their teaching area has had an effect on people and society. The culminating activity is a field study. The main purpose of the field study is to provide students with an opportunity to apply and synthesize the contents of their program. Education specialists are encouraged to select practical problems related to their professional appointment, or if not presently employed, to select a problem from their discipline.

The applied research component consists of course work in computer science, research design and procedures, and statistics. A holder of an advanced degree should have an intimate knowledge of research design, measurement and statistics, and a broad background in the problems associated with industrial and vocational education.

The professional education component consists of courses in the foundational areas of education and curriculum and instruction. There is a growing body of knowledge and research dealing with education and the instructional process. It is imperative that the education specialist be able to implement current innovative educational practices and thought into the curriculum and the teaching process.

The three components are shown below as they appear in the curriculum requirements for the degree.

Program Plan

To qualify for the Ed.S. degree with a concentration in industry and technology requires that the student earn not less than 36 semester credits beyond the master's degree which will be distributed as follows:

Industry and Technology (16-20 credits)

190-890	Field Study in Industry and Technology	6
195-733	Impacts of Technology	2
XXX-XXX	Selectives	8-12

Applied Research (6-10 credits)

354-741	Computer Programming Techniques	2
421-816	Instrumentation for Research	3
XXX-XXX	Selectives	1-5

Professional Education (6-10 credits)

421-811	Structuring Knowledge	2
479-850	Psychology of Development	3
XXX-XXX	Selectives	1-5

Professional Education Concentration

This concentration has been designed for the individual who is committed to additional depth in preparation as a professional educator in the areas of curriculum and instruction, and the supervision of instruction.

Content for the advanced degree program will be drawn from three bodies of knowledge: (a) industry and technology; (b) applied research; and (c) professional education. Selection of these three components is based on the assumption that the holder of an advanced degree should be a practicing educator, capable of solving problems through applied research techniques, and a scholar within a discipline.

Curriculum

The curriculum consists of three groups of courses and/or experiences as follows: industry and technology, applied research, and professional education (*curriculum and instruction, and the supervision of instruction*).

The industry and technology component consists of courses in the sciences basic to industry and technology (*math, computer science, sociology, psychology, communication and economics*), and the impacts of technology on society.

The applied research component consists of course work in management information systems, instrumentation for research, employment and training research, and planning. A holder of an advanced degree should have knowledge of research design, measurement and statistics, and an understanding of problems associated with industrial and vocational education.

The professional education component has two sub-components: curriculum and instruction, and the supervision of instruction. Curriculum and instruction involves the advanced graduate student in curriculum engineering, instructional systems, instructional strategies, structuring knowledge, principles of learning, guidance of learning activities, identification and determination of instructional content, and computer assisted instruction as related to industrial and vocational education. Supervision of instruction involves policy developments, cost analysis, cost effectiveness, program evaluation review techniques, accountability in education, decision making models, evaluation systems, improvement of instruction, financial aspects, coordination, leadership procedures, management information systems, and management techniques as related to industrial and vocational education. The culminating activity is a field study which is six semester credits of the total (16-20 credits) in this component. The field study provides the opportunity to put into practice some aspect of the program that will benefit both the student and the institutional setting where the student is employed or aspires to be employed.

Program Plan

To qualify for the Ed.S. degree with a concentration in professional education, the student must earn not less than 36 semester credits beyond the master's degree, which will be distributed as follows:

Industry and Technology (6-10 credits)

195-733	Impacts of Technology	2
479-850	Psychology of Development	3
XXX-XXX	Selectives	1-5

Applied Research (6-10 credits)

421-816	Instrumentation for Research	3
XXX-XXX	Selectives	3-7

Professional Education (16-20 credits)

421-811	Structuring Knowledge	2
421-890	Field Study in Professional Education	6
XXX-XXX	Selectives	8-12

Selectives

The student should confer with the program adviser (*chairman of supervisory committee*) in choosing selective credits to complete the 36-hour degree requirement. There is considerable flexibility in the program with regard to selectives, and they may be taken as needed to fulfill the individual goals and objectives of the student. Generally, selectives may be chosen from the following:

Industry and Technology

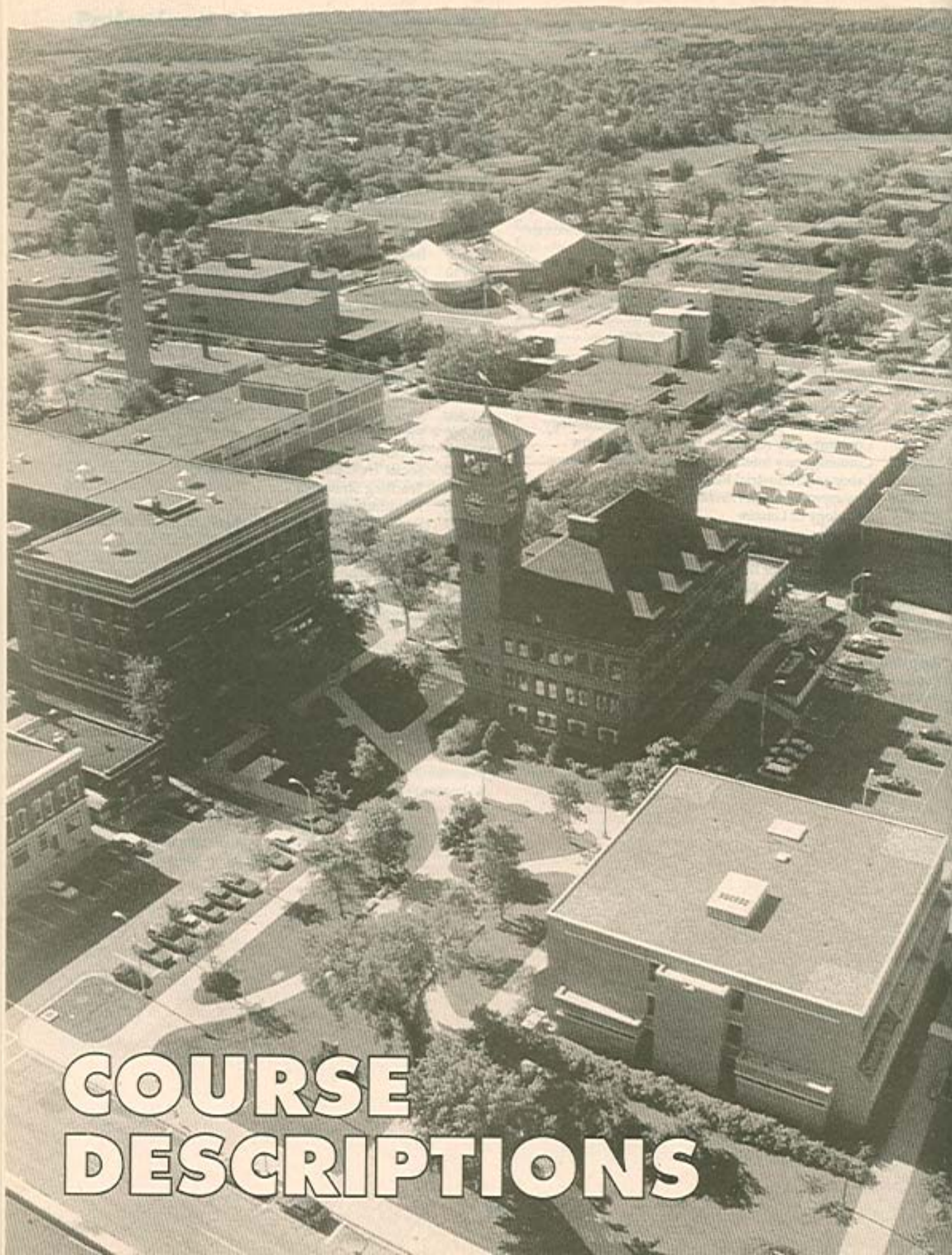
110-702	Recent Developments in Power Technology	2
130-557	Color Separation	2
130-718	Recent Developments in Industrial Graphics	3
150-500	Engineering Economy	3
150-650	Introduction to Operations Research	3
170-401	Solid Waste Technology	3
170-713	Wood Properties I-Structure and Characteristics	3
181-301	Technology-Resources-Environment	2
181-506	Maintenance of Processing Equipment	3
181-515	Metallurgy	3
182-639	Land Use Planning	3
183-636	Computer Assisted Design Problems	2
186-614	Transmission and Drive Trains	2
190-739	Introduction to Problems of Industry/Technology	1
320-610	Contemporary American Economic Problems	3
320-615	Contemporary International Economic Problems	3
320-720	Labor and Industrial Relations	2
372-XXX	<i>Any approved physics elective</i>	3
387-525	Sociology of Leisure	3
387-540	Sociology of Work	3
387-560	Sociology of Juvenile Delinquency	3
391-508	Speech Skills for Business and Industry	2
391-512	Speech Skills for Educators	2
479-850	Psychology of Development	3
XXX-798	Problems in (technical areas)	2-6

Applied Research

354-640	Computer Use in Education	3
354-741	Computer Programming Techniques	2
421-733	Survey Procedures	2
421-742	Program Evaluation	3
421-816	Instrumentation for Research	3

Professional Education

120-732	Planning Media Facilities	2
120-740	Instructional Development	2
120-760	Media Services	2
150-600	Organizational Leadership	3
150-740	Introduction to Decision Theory	3
150-750	Organizational Development	3
190-638	Course Construction	2
190-708	Issues in Technology Education	2
190-710	Curricular Innovations in Technology Education	2
199-534	Task Analysis	2
199-560	Cooperative Occupational Education Programs	2
199-674	Adult Education	2
199-708	Issues in Vocational, Technical and Adult Education	2
199-710	Coordination and Supervision of Vocational Education	2
199-746	Seminar in Vocational Education	2
199-780	Internship Vocational Education	4-8
199-784	Internship-Local Vocational Education Coordinator (LVEC)	4-8
199-792	Administration-Vocational, Technical and Adult Education	2
199-799	Independent Study	2
413-750	Appraising the Individual	2
413-752	Group Dynamics	2
413-890	Multiple Counseling and Sensitivity Training	2
421-700	Philosophy of Modern Education	2
421-702	Principles of Supervision	2
421-705	Social Thought of American Educators	2
421-714	Teaching Strategies	4
421-726	Administration	2
421-727	Supervision of Student Teachers	2
421-742	Program Evaluation	3
421-750	Curriculum Theory and Practice	2
421-799	Independent Study	2
421-811	Structuring Knowledge	2
421-830	Educational Administrative Behavior	3



COURSE DESCRIPTIONS

Course Numbering System

UW-Stout uses a six digit numbering system. The first three digits designate the school and department offering the course. The fourth digit indicates the level of the course. While 500-699 courses may carry graduate credit, such credit is generally awarded only to students in graduate degree programs with the approval of their adviser. 700-899 courses may be taken for graduate credit only. 800-899 courses are intended for students admitted to education specialist degree programs. Admitted candidates for master's degrees may also be permitted to enroll.

Renumbering: Learning Resources courses formerly numbered in the 600 department series are renumbered with 120 as the departmental number. In the process of restructuring the departments of the School of Industry and Technology, some of the courses were renumbered. Those courses are now listed with prefixes ranging from 181 to 186. Students with questions should check with their program director.

Campus-Bound Courses: Those identified by department chairpersons and administrators as those that can be taught only on the campus at UW-Stout for such reasons as need for specialized laboratory facilities, need for the UW-Stout faculty expertise, access to the library and the like. The list is updated biannually through the school deans and is approved by the vice chancellor. A list is maintained in the Graduate Office. Those in this category as this bulletin goes to press are identified at the end of the course description with CB.

Industry and Technology (1)

- 100 Interdepartmental
- 120 Media Technology
- 130 Graphic Communications
- 140 Safety and Loss Control
- 150 Industrial Management
- 160 Business Administration
- 181 Manufacturing
- 182 Construction
- 183 Design, Research and Development
- 184 Electricity/Electronics
- 185 Power
- 186 Transportation/Energy
- 190 Industrial Teacher Education
- 195 Technology
- 196 Marketing Education
- 198 Training and Human Resource Development
- 199 Vocational Education

Home Economics (2)

- 200 Interdepartmental
- 212 Human Development and Family Living
- 214 Apparel, Textiles and Design
- 229 Food and Nutrition
- 242 Home Economics Education
- 245 Habitational Resources

Liberal Studies (3)

- 300 Interdepartmental
- 303 Anthropology
- 304 Art
- 308 Biology
- 311 Chemistry
- 312 Industrial Hygiene
- 320 Economics
- 326 English and Journalism
- 354 Applied Mathematics
- 365 Philosophy
- 372 Physics
- 375 Political Science
- 387 Sociology
- 391 Speech

Education and Human Services (4)

- 413 Counseling
- 421 Education
- 431 Special Education
- 459 Vocational Rehabilitation
- 479 Psychology
- 489 School Psychology

Academic Affairs (5)

- 500 Transdisciplinary

Course Scheduling

A letter system has been developed to help students plan course schedules. Letters following course descriptions indicate when a course is **usually** offered. F-Fall Semester; W-Winter Semester; S-Summer Session; SO-Summer Session odd numbered years; SE-Summer Session even numbered years. Courses not lettered follow no usual pattern. The system does not guarantee that a course will be offered during a particular semester.

Interdepartmental — Industry and Technology

100-500 Introduction to Futures Study 2 Cr.

Methods of future projection, orienting thought toward future alternatives; impact of future problems on major areas of human activity. F

100-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

100-590 Technical Service Schools .5-6.0 Cr.

Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: 1) student makes all arrangements with manufacturer offering course; 2) one credit is awarded for each full week (40 clock hours) of attendance; 3) student enrolls and pays fees at university prior to taking course; 4) approval of dean of the School of Industry and Technology needed before enrolling for credit; 5) Graduate College approval required for students taking course for graduate credit. S

100-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

100-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

Media Technology

120-504 Elementary Photography 2 Cr.

Fundamentals of photography: aesthetics, basic theory, camera operation, film selection, lighting, roll-film processing, contact printing, enlarging and print finishing. Student must provide own camera. (Prior to June 1, 1988, this course was numbered 600-504.) Special course fee. F-W-S

120-535 Film—History and Appreciation 3 Cr.

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers. (Prior to June 1, 1988, this course was numbered 600-535.) F

120-540 TV—Appreciation and Criticism 2 Cr.

Analysis of major TV program types; positive and negative contributions of TV; commercials; children's programming; TV viewing diary; development of TV Action Plan. (Prior to June 1, 1988, this course was numbered 600-540.) Special course fee. W

120-560 Audiovisual Communications 2 Cr.

Methods of evaluating and using audiovisual materials effectively; experience in operating equipment; basic techniques of media preparation. (Prior to June 1, 1988, this course was numbered 600-560.) F-W-S

120-561 Advanced Graphic Production 2 Cr.

Advanced techniques for planning, designing and producing materials for instruction and graphic training. (Prior to June 1, 1988, this course was numbered 600-561.) Special course fee. Prerequisite: 120-560. F-W-S

120-570 Computer-Assisted Interactive Video 3 Cr.

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems. Prerequisite: consent of instructor or curriculum course. S

120-580 Microcomputer Applications—Words/Data 2 Cr.

Applications of specific commercial microcomputer programs for personal, professional and student use. Emphasis on word processing, numerical and file management programs. (Prior to June 1, 1988, this course was numbered 600-580.) W-S

120-600 Workshop 1-3 Cr.

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

120-605 Advanced Photography 2 Cr.

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. (Prior to June 1, 1988, this course was numbered 600-605.) Special course fee. Prerequisite: 120-504. F-W-S

120-612 Nature Photography 2 Cr.

Fundamentals of camera techniques composition, aesthetics, exposure and light in relationship to animals, plants, water, weather and landscapes. Special emphasis on proper photographic equipment and field techniques for nature photography. Prerequisites: 120-504 or consent of instructor. Camera required. F-W-S

120-614 Slide Duplication and Copystand Techniques 1 Cr.

Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures. Prerequisite: 120-504 or consent of instructor. S

120-625 Broadcast TV Production Internship 1-4 Cr.

Practical experience in all phases of broadcast color television program production. Student develops internship program with teleproduction center manager. One credit per 40 hours of work experience. (Prior to June 1, 1988, this course was numbered 600-625.) Prerequisites: 120-630 and 120-632 or consent of instructor.

120-630 Audio/Film/TV Production Fundamentals 3 Cr.

Instructional film, audiotape and videotape production fundamentals. For media technology majors; not open to those taking 391-554. (Prior to June 1, 1988, this course was numbered 600-630.) Special course fee. F-S

120-640 Telecommunication Systems and Teleconferencing 2 Cr.

Interactive teleconferencing techniques. Applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics. (Prior to June 1, 1988, this course was numbered 600-640.) Special course fee. F-W-S

120-645 Color Photography 2 Cr.

Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing. (Prior to June 1, 1988 this course was numbered 600-645.) Special course fee. Prerequisite: 120-504. F-W-S

120-654 Small Format Video Production 1 Cr.

Selection of small format video systems to meet varied production needs. Planning and shooting video programs using BETA or VHS camcorders or 8mm equipment. Participants must provide their own personal or institutional video equipment. S

120-655 Slide/Tape and Multi-Image Production 2 Cr.

Practical experience in planning, producing and presenting media productions for instruction/training. Advanced applications of photography, audio, video and programming related to slide/tape and multi-image presentations. (Prior to June 1, 1988, this course was numbered 600-655.) Prerequisites: 120-560 and 120-630. W

120-716 Media Selection and Evaluation 3 Cr.

Methods and procedures for identifying and using resources for selecting media materials and equipment for various instructional/training environments. (Prior to June 1, 1988, this course was numbered 600-716.)

120-718 Introduction to Problems in Media Technology 1 Cr.

Selection criteria for problems in media technology and preparation of a detailed proposal to explore a particular problem. Take prior to or concurrently with 421-740. (Prior to June 1, 1988, this course was numbered 600-718.) Prerequisite: consent of instructor. F-S

120-722 Problems in Media Technology 2 Cr.

Identification, selection and completion of a problem in audiovisual communications, culminating in a Plan B paper. (Prior to June 1, 1988, this course was numbered 600-722.) Prerequisite: 421-740. F-W-S

120-732 Planning Media Facilities 2 Cr.

Planning physical facilities for media production and distribution centers; large group multi-media auditoria; small group instructional area; and mediated carrels. Consideration of technological and environmental factors. Emphasis on working relationships with architects. (Prior to June 1, 1988, this course was numbered 600-732.) Prerequisite: 120-560. SO

120-740 Instructional Development 2 Cr.

Systems approach to instructional improvement. Identification and analysis of instructional needs; design of instructional alternatives; selection and development of instructional packages; and the evaluation and validation of the resulting products in terms of student learning. (Prior to June 1, 1988, this course was numbered 600-740.) Special course fee. Prerequisites: 120-560, 120-561. F-W-S

120-750 Problems in Industry and Technology—Photography 2-6 Cr.

Substantive study and activity for specialists in the photography field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in photography. Preparation of a technical report may be repeated for a maximum of six semester credits. (Prior to June 1, 1988, this course was numbered 600-750.) Prerequisites: 190-740 and consent of the department chairman.

120-760 Managing Media Services 3 Cr.

Application of management systems to business and educational media programs. Emphasis on decision-making, planning and implementation, communication, supervision, and evaluation strategies. (Prior to June 1, 1988, this course was numbered 600-760.) F-W-S

120-765 Practicum: Instructional Development 1-3 Cr.

Experience for the media technology student seeking employment in business/industry. (Prior to June 1, 1988, this course was numbered 600-765.) Prerequisites: 120-740 and permission of instructor. F-W-S

120-766 Practicum: Media In-service 1 Cr.

Students will practice planning, developing, presenting, managing and evaluating a variety of in-service experiences in instructional media. (Prior to June 1, 1988, this course was numbered 600-766.)

120-770 Thesis—Media Technology 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problem, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. (Prior to June 1, 1988, this course was numbered 600-770.) Prerequisites: 421-740, approval of major director. F-W-S

120-780 Microcomputers in Media Centers 2 Cr.

Applications of microcomputers in the public school library/media center—cataloging, circulation, inventory, booking, budget, security, policy development, software selection/evaluation, in-service training. (Prior to June 1, 1988, this course was numbered 600-780.) Prerequisite: computer literate approval of instructor. F-W-S

120-788 Media Technology Internship 1-8 Cr.

Practical experience in the various operational aspects of a school, university or special media center. The student will develop his internship program in conjunction with his major adviser and the media center director. (Prior to June 1, 1988, this course was numbered 600-788.) Prerequisite: consent of academic adviser. F-W-S

120-790 Seminar 1-3 Cr.

Specific content is designed to upgrade the competencies and knowledge of the participants. Content for each offering will change to reflect the current state of the art in media technology. (Prior to June 1, 1988, this course was numbered 600-790.)

120-792 Issues 1 Cr.

Discussion of current issues, trends and directions in the school library media profession, including discussion topics generated during the annual Media Technology Conference. May be repeated. Not appropriate for Media Technology majors. Repeatable for credit.

Graphic Communications**130-500 Workshop 1-3 Cr.**

Special topics in Graphic Communications, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

130-504 Communications and Information Systems 1-3 Cr.

Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information. Special course fee. Prerequisite: 130-103. F-W-S

130-505 Office Automation Technology 3 Cr.

Automation information concepts and technology used in office including both communication, storage, and retrieval systems. Emphasis on cost effective selection and implementation problems. Prerequisite: 130-103 or consent of instructor. F-W-S

130-506 Introduction to Telephony 2 Cr.

Principles of current technologies, systems, and trends in telephone communication systems design and applications. Special course fee. F-W-S

130-507 Artificial Intelligence Applications in Business 2 Cr.

Artificial intelligence applications in business and industry with emphasis on office information system characteristics and implementation. Prerequisite: 130-505. F-W

130-509 Business Applications in Desktop Publishing 1-2 Cr.

Office automation and information systems for generating business formats on a computer network. Computerized forms, summaries, and related graphics utilizing automated pagination software, and existing software systems print commands with laser printer characteristics. F-W-S

130-527 Site Engineering 2 Cr.

Use of surveying instruments, techniques and computation to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage; soil analysis. Special course fee. Prerequisites: 183-110 and trigonometry. F-W-S

130-537 Mechanical Design Drafting 2 Cr.

Design of a machine, specifications, layout, calculations, bills of material, detail and assembly drawings. Prerequisites: 183-311, 183-532 or concurrent registration. F

130-543 Graphic Arts Production Techniques 2 Cr.

The study of techniques associated with the production of two-dimensional printed media, with emphasis on design, production and evaluation, also including client and printer relationships. Prerequisite: 130-366. Repeatable for credit. F-W-S

130-545 Publications Production 1 Cr.

Principles of designing, printing and distributing publications for business, education and industry. Prerequisite: 130-140. Repeatable for credit. F-W-S

130-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

130-557 Color Separation 2 Cr.

Color separation from reflected and transmission copy; filters and densitometry; direct and indirect photographic color separation methods. Special course fee. Prerequisite: 130-355 or consent of instructor. W

130-561 Screen Printing 5-2.0 Cr.

Screen printing technology--applications, components and techniques. Survey of various materials and equipment used in screen printing. Production of screen printed products. Special course fee. Prerequisites: 130-140 or 214-592 or 304-518, or consent of instructor. F-W

130-597 Field Experience 1 Cr. Repeatable for credit. F-W-S**130-598 Field Experience 1-2 Cr.** F-W-S**130-649 Cooperative Education Experience 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

130-697 Field Experience 1 Cr. Repeatable for credit. F-W-S**130-698 Field Experience 1-2 Cr.** F-W-S**130-716 Seminar in Industrial Graphics 2 Cr.**

Review of commercial practices in industrial graphics, including drafting departments, design, standards, documentation, dimensioning, symbology, equipment, media and automated processes. Prerequisite: consent of department chairperson. S

130-717 Theoretical Foundations for Technical Drawing 3 Cr.

A study of various concepts for accurately representing three-dimensional spatial relations on a two-dimensional surface. Prerequisite: graduate standing or 10 semester hours of credit in industrial graphics field or consent of department chairperson. S

130-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

130-797 Field Experience 1 Cr. Repeatable for credit. F-W-S**Safety and Loss Control****140-574 Alcohol, Drugs and Accident Prevention 2-3 Cr.**

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers. SO

140-575 Behavioral Approach to Accident Prevention 2-3 Cr.

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior. SE

140-581 Occupational Safety/Loss Control 2-3 Cr.

Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources and problems of selecting corrective action. Prerequisite: junior standing. F-W-S

140-583 Voluntary OSHA Compliance 2-3 Cr.

Implications of Federal Occupational Safety and Health Act of 1970 on industrial operations, systematic self-inspection and compliance procedures. F-S

140-584 Safety Engineering Standards 2 Cr.

Analysis of legal and voluntary industrial workplace standards and regulations. F

140-586 Fire Protection/Prevention 3 Cr.

Behavior of fire: chemistry, protection, prevention and control. W

140-587 Human Factors Engineering 3 Cr.

Man's physiological and psychological abilities in man/machine interface, working performance, reliability, comfort and safety; effective design of man and work environment as a cybernetic system. Prerequisites: 479-110, 354-130 or consent of instructor. F

140-588 Construction Safety 2 Cr.

Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems. F-W

140-589 Fleet Safety Management 2 Cr.

Controlling loss associated with motor fleet operations: selection, training and supervision of commercial drivers; regulatory controls. W

140-590 Product/Service Liability 2 Cr.

An analysis of products liability losses, laws and controls. W

140-597 Field Experience 1 Cr. F-W-S

140-598 Field Experience 1-2 Cr. F-W-S

140-697 Field Experience 1 Cr. F-W-S

140-698 Field Experience 1-2 Cr. F-W-S

140-700 Semiconductor Industry Loss Control 1 Cr.

Loss Control (*Safety, Health*) aspects of the semiconductor industry. Hazard identification, reduction and control. W

140-781 Risk Management in Loss Control 3 Cr.

An in-depth view of workers compensation, liability (*general products*) and property insurance, with respect to the irrespect on safety and health loss control. F

140-782 Safety Management 3 Cr.

An in-depth study and application of current administrative, organizational, and supervisory practices, which are specifically and uniquely related to managing industrial or occupational accident prevention and loss control programs. W

140-783 Field Problem in Accident Prevention/Loss Control 3 Cr.

An operational experience which requires identification of a technical and/or administrative problem in an occupational setting. The problem is researched, analyzed for alternative operational counter measures, and field tested to determine the effectiveness of the solutions. F-W

140-784 Safety Internship 1-6 Cr.

Full-time, supervised work and learning experience in an appropriate professional setting. F-W-S

140-785 Seminar in Safety 2 Cr.

Current topics, trends and methods in loss control will be examined, discussed and evaluated. W

140-797 Field Experience 1 Cr. F-W-S

140-798 Field Experience 1-2 Cr. F-W-S

Industrial Management

150-500 Engineering Economy 2-3 Cr.

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation. Prerequisite: 150-200 or consent of instructor. F-W-S

150-501 Seminar 1-2 Cr.

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. F-W

150-502 Time Management 1 Cr.

Elements of time management, strategies and techniques in industrial and business environments. Analysis of time use by all levels of management.

150-505 Product and Inventory Control 3 Cr.

Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, sub-assemblies, and final assemblies of a manufacturing system. Prerequisite: 150-200 or 354-130 or 354-530. F-W

150-510 Production Processing 3 Cr.

Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Prerequisite: 150-200. F-W

150-514 Industrial Enterprise Practicum 3 Cr.

Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product. Prerequisite: 150-115 or 150-150. F-W-S

150-520 Quality Assurance 3 Cr.

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance. Prerequisites: 150-200, 354-130 or 354-530. F-W-S

150-525 Quality Management 3 Cr.

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment. Prerequisites: 150-220 and 150-520. F-W-S

150-530 Material Handling 3 Cr.

Principles of material handling; handling function, its role in production activities and problems of handling materials in industrial settings. Prerequisite: 150-200. F-W

150-540 Time and Motion Study 3 Cr.

Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques and principles of motion economy. Prerequisite: 150-200. F-W-S

150-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairman. Repeatable for credit. F-W-S

150-550 Plant Layout 3 Cr.

Principles and methods of solving plant layout and material handling problems. Prerequisite: 150-200. F-W

150-597 Field Experience 1 Cr. F-W-S

150-598 Field Experience 1-2 Cr.

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. Repeatable for credit. F-W-S

150-600 Organizational Leadership 3 Cr.

Supervisor's role in attaining organizational objectives through human resources management; supervisory skills of communication, motivation, initiation of change, discipline, delegation and grievance handling developed on basis for organizational and individual behavior concepts. Prerequisite: senior or graduate standing. F-W-S

150-601 Management Consulting 2 Cr.

The organization and analysis of major elements of the consulting profession in management: 1) subject matter expertise, 2) marketing, 3) organizational development, 4) business principles for consultants and 5) communication skills; synthesis of the interdependent relationship of the major elements in the consultation process. F-W

150-605 Production and Inventory Control Practicum 2 Cr.

Application of principles and techniques learned in 150-505 as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-505.

150-620 Quality Assurance—Practicum 2 Cr.

Application of principles and techniques learned in 150-520, as part of Professional Semester/Manufacturing Laboratory. Prerequisite: 150-520.

150-630 Quality Circles 2 Cr.

Background and history of participative management in Japan and America, orientation as to the structure and sequential development of quality circles, industrial quality control data gathering techniques, problem solving methods, organizational politics, and meeting management methods simulated and analyzed.

150-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. Repeatable for credit. F-W-S

150-660 Industrial Management 2 Cr.

Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. Prerequisite: senior standing.

150-680 Production Management Practicum 2 Cr.

Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. Prerequisite: consent of instructor. F-W

150-697 Field Experience 1 Cr. F-W-S**150-698 Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. Repeatable for credit. F-W-S

150-700 Systems Analysis and Design 3 Cr.

A survey of design approaches to industrial research. Application of appropriate research tools to analyze and design jobs, organization, operating systems and product/market studies. Prerequisite: graduate standing. F-W

150-710 Seminar in Industrial Operation 2 Cr.

Discussion of current theory and practice of operation of engineering, marketing, manufacturing, financial administration and industrial relations aspects of industry. These integrated systems will be analyzed based upon the management of objectives concept. Prerequisite: graduate standing. F-W

150-720 Foundations in Industrial Operations 2 Cr.

This course is designed to improve the student's competencies in all aspects of industrial technology. A major professor will be identified who will serve as a tutor in guiding the student's self-development program. There will be a culminating matriculation to candidacy examination to assure minimum proficiency standards. Prerequisite: graduate standing. F-W-S

150-730 Advanced Technical Problems—Industrial Management 2-6 Cr.

Advanced study in industrial management, management control, product development or process and facility planning. Recent developments, advanced technical work, experimental work and technical reports. A specific problem area for study in this course must be identified by the student prior to registering for this course. F-W-S

150-740 Introduction to Decision Theory 3 Cr.

Application of quantitative methodology to the solution of industrial problems. Prerequisite: graduate standing. W

150-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2", "3", or "4". Prerequisite: consent of instructor or department chairman. Repeatable for credit. F-W-S

150-750 Organizational Development 3 Cr.

Change agent skills for middle managers and external consultants to facilitate organizational health. Assessment, diagnosis, intervention, team building, and coaching of key organization personnel. Emphasis on practical methods for the development of various types of organizations. Prerequisite: 150-600 or consent of instructor. S

150-760 Corporate Planning 2 Cr.

Introduction to corporate planning, strategy and policy. Orientation to generalized planning process and the outputs of planning system. A discussion of planning decision sub-system, strategic information sub-system, planning organizational sub-system and planning management sub-system. Prerequisite: consent of instructor. F-W

150-780 Problems in Management Technology 2-4 Cr.

Identification, selection and completion of a problem in management technology culminating in a Plan B paper. Prerequisites: consent of instructor and approval of major advisor. F-W-S

150-790 Field Project 3 Cr.

A capstone experience to integrate and synthesize previous earnings within the context of an industrial environment. The total integrated systems approach will be applied to an industrial project. This may be either research in a simulated multi-factor industrial situation or an internship assignment. Prerequisite: consent of instructor. F-W-S

150-797 Field Experience 1 Cr. F-W-S**150-798 Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. Repeatable for credit. F-W-S

Business Administration**160-520 Seminar 1-3 Cr.**

Current topics in business. (Title will reflect specific business content.) Repeatable for credit. F-W-S

160-535 Entrepreneurship: Small Business Planning 3 Cr.

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the marketplace, going into business—start-up, buy out, franchise—legal and financial aspects. Preparing a business plan required. Prerequisites: 160-206 or 160-200 and 160-330 or consent of instructor.

160-538 International Logistics 3 Cr.

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills. Prerequisite: 160-438. W

160-540 International Business Finance 3 Cr.

Applications of concepts of business finance in international setting. Financing of international transactions and multinational corporations. Management of international working capital, financial and tax systems. Prerequisite: 160-340 or consent of instructor. W

160-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

160-573 Legal Aspects of Construction 3 Cr.

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker. F

160-585 International Marketing 3 Cr.

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. Prerequisite: 160-330.

160-588 International Business Practicum 3 Cr.

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability. Prerequisites: 160-585 and consent of instructor.

160-597 Field Experience 1 Cr. F-W-S**160-598 Business Administration Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. Repeatable for credit. F-W-S

160-600 Workshop 1-3 Cr.

Special topics in Business Administration, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

160-601 Legal Environment of Business 2 Cr.

Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control. F-W

160-638 Industrial Distribution Seminar 2 Cr.

Culminating and synthesizing experiences in Industrial Distribution. Individual topics will vary from semester to semester reflecting the latest changes in the field. Special course fee. Prerequisite: 160-438. F

160-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

160-679 Marketing Research 3 Cr.

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management. Prerequisites: 160-330 and a first level statistics course. F-W

160-690 Administrative and Business Policies 3 Cr.

Integrates previous business studies, develops ability to solve business problems through scientific approach to decision-making. Business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel and public relations functions. Prerequisites: 160-330, 160-340 and 320-210 or 320-201 and senior standing. F-W

160-697 Field Experience 1 Cr. F-W-S**160-698 Business Administration Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. Repeatable for credit. F-W-S

160-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

160-760 Corporate Planning 2 Cr.

Introduction to corporate planning, strategy and policy. Orientation to generalized planning process and the outputs of planning system. A discussion of planning decision sub-system, strategic information sub-system, planning organizational sub-system and planning management sub-system. Prerequisite: Consent of instructor. F-W

160-797 Field Experience 1 Cr. F-W-S**160-798 Business Administration Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. Repeatable for credit. F-W-S

Manufacturing

181-502 Engineering Data Bases for Manufacturing 3 Cr.

Classification and coding, and formation of a group technology system. Modification of existing software for computer aided process planning to serve specific needs. Information storage and retrieval systems. Development of computer integrated manufacturing data bases. Technical and human factors affecting workers. Prerequisite: 181-504 or 150-510 or consent of instructor. F-W-S

181-504 Computer Aided Manufacturing 3 Cr.

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Special course fee. Prerequisites: 181-101 or consent of instructor, equivalent programming course. F-W

181-505 Robotics 2 Cr.

Capabilities of and justification for industrial robots; lab work with robots and simulators in processing, assembly and materials handling. Special course fee. Prerequisites: 181-504 and 354-141 or consent of instructor. F-W

181-506 Maintenance of Processing Equipment 3 Cr.

Recondition, identify and correct common malfunctions of hand and power woodworking and metalworking equipment; manufacturers' performance specifications, cutting tool specifications and preventive maintenance schedules; selection of hand tools, power equipment, measuring instruments and safety devices. F-W

181-508 Industrial Metrology 3 Cr.

Measurement of heat, moisture, speed, fluid flow, material properties, and angular and linear dimensions for parts production and process control. Theory and application with major emphasis on dimensional metrology. Introduction to statistical process control and nondestructive testing. Prerequisites: 181-102, junior standing or consent of instructor. F-W-S

181-510 Manufacturing Systems 3 Cr.

Dedicated, flexible and standard manufacturing systems. Selection and application of standard production components and tooling to produce and evaluate a given product. Emphasis on integrated inspection, part transfer, production and robot application. Special course fee. Prerequisite: 181-504.

181-513 Manufacturing Processes: Wood Products 3 Cr.

Primary and secondary manufacturing processes including machining theory, computerized planning systems, Numerical Control (NC) machining applications, optically controlled laser engraving/cutting, product development and production systems. Prerequisite: 182-313. F-W-S

181-515 Metallurgy 3 Cr.

Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys. Prerequisite: 311-115. F-W

181-537 Numerical Control in Manufacturing 3 Cr.

Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended. Special course fee. Prerequisite: 181-102 or 181-504. F-W

181-540 Design and Simulation of Manufacturing Cells 3 Cr.

Applied manufacturing system design and evaluation. Group technology approach. Computer assisted coding and classification. Development of part families. Efficient design of manufacturing cells. Evaluation of manufacturing system designs using simulation and other techniques. Basic statistics and computer programming abilities desirable. Special course fee. Prerequisite: 181-504. F-W

181-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

181-565 Welding II 2 Cr.

Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and non-destructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 181-365. W

181-580 Packaging Development 3 Cr.

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer. Prerequisite: 181-480. F-W

181-585 Packaging Seminar 2 Cr.

Current packaging problems or developments (*subject based on students' interests and current issues*). Prerequisite: Senior standing in packaging concentration. F-W

181-595 Seminar 1-2 Cr.

(*Title will reflect specific materials and processes content.*) Designed to upgrade effectiveness of teachers or secondary school materials and processes content.

181-597 Field Experience 1 Cr. F-W-S**181-598 Field Experience 1-2 Cr. F-W-S****181-610 Workshop 1-3 Cr.**

Special topics in materials and processes providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

181-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

181-697 Field Experience 1 Cr. F-W-S**181-698 Field Experience 1-2 Cr. F-W-S****181-749 Cooperative Education Experience 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

181-797 Field Experience 1 Cr. F-W-S**181-798 Problems in Industry and Technology 2-6 Cr.**

Substantive study and activity for specialists in the materials and processes field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739 and consent of department chairperson. F-W-S

Construction**182-500 Workshop 1-3 Cr.**

Special topics in Graphic Communications, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

182-528 Structural Design 3 Cr.

Analysis, selection and delineation of concrete, steel and wood structural components and systems in buildings. Prerequisite: 183-291 or 372-325. F

182-538 Contract Requirements and Specifications 3 Cr.

Principles of contract requirements and construction specifications organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents. Prerequisite: 326-320 or 326-515. F-W

182-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

182-552 Environmental Systems I 3 Cr.

Heating, heat energy, heating systems, calculation of heating loads, heating drawings, burners and control systems. W

182-553 Environmental Systems II 3 Cr.

Plumbing, electrical and illumination systems for light and heavy construction. Prerequisite: 372-232 or 372-242 or 372-282. W

182-557 Building Construction Practicum 2-4 Cr.

Technical information, construction problems and actual development of light residential structure. Prerequisite: 181-270. S

182-558 Structural Systems I 3 Cr.

Analysis, selection and delineation of concrete, steel and wood structural components and systems in buildings. Prerequisite: 130-291 or 372-325. F

182-570 Estimating I 3 Cr.

Estimating and analyzing material, man-hours, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid. Prerequisites: 150-X98 and junior standing. F-W

182-575 Construction Practicum 2-4 Cr.

Technical information, construction problems and actual development of light residential structure. Prerequisite: 181-270. S

182-595 Seminar 1-2 Cr.

(*Title will reflect specific graphic and industrial communication content.*) Current and projected communication methods, concepts, technologies and innovations in graphic communications. Repeatable for credit. S

182-639 Land Use Planning 3 Cr.

Area planning; problems in design of building complexes; exterior space, land use, relationships between buildings and supporting facilities; contemporary regional and city planning and its historical roots. Prerequisite: 182-325. F-W

182-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

182-670 Project Scheduling and Cost Control 3 Cr.

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisite: 150-570. F-W

182-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

182-798 Problems in Construction 2-6 Cr.

Substantive study and activity for specialists in the graphic arts field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in graphic arts. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739 and consent of department chairperson. Repeatable for credit. F-W-S

Design, Research and Development**183-500 Workshop 1-3 Cr.**

Special topics in Graphic Communications, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

183-520 Prototype Development and Model Making 3 Cr.

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three-dimensional objects using traditional and non-traditional machining and forming techniques. Three dimensional design problems form the core of this course. Special course fee. Prerequisite: 181-102. W

183-532 Mechanical Design 4 Cr.

Analysis and design of machine elements: gearing bearings, shafting and friction devices. Prerequisites: 183-291 or 372-325, 183-592 or 372-533, 183-593. W

183-537 Numerical Control in Manufacturing 1-3 Cr.

Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended. Special course fee. Prerequisite: 181-102 or 181-504. F-W

183-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

183-592 Mechanics of Machinery I 3 Cr.

Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration. Prerequisites: 183-290 or 372-531, 355-153. W

183-593 Mechanics of Machinery II 3 Cr.

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic force Prerequisite: 183-290 or 372-531. F

183-595 Seminar 1-2 Cr.

(Title will reflect specific graphic and industrial communication content.) Current and projected communication methods, concepts, technologies and innovations in graphic communications. Repeatable for credit. S

183-620 Research and Development 2 Cr.

Research and development procedures applied to specific industrial material and processing problems. Prerequisite: senior or graduate status. F-W

183-621 Research and Development Laboratory 1 Cr.

This lab is taken in conjunction with 170-620 to allow students in technical majors to fulfill the requirements of the major research and design project. Prerequisite: senior or graduate status, to be taken concurrently with 170-620. F-W

183-636 Computer Assisted Design Problems 2 Cr.

Advanced CADD applications. Construct three dimensional wireframe drawings. Perform finite element analysis on select components. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. Prerequisite: 130-230 or consent of instructor. W

183-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

183-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. Repeatable for credit. F-W-S

183-798 Problems in Drafting/Product Design 2-6 Cr.

Substantive study and activity for specialists in the graphic arts field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in graphic arts. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739 and consent of department chairperson. Repeatable for credit. F-W-S

Electricity/Electronics**184-530 Artificial Intelligence Applications 3 Cr.**

Methodology and problem-solving techniques of contemporary application-oriented artificial intelligence. Prerequisite: 354-341. F-W-S

184-542 Computer Applications in Electronics 3 Cr.

Microprocessor application at a system level. Use of hardware and software design aids such as: assemblers, text editors, compilers, read only memory emulators and system projects related to specific microprocessors. Introduction to the 16 bit microprocessors, 8 bit slice processors, signal processors and controllers. Prerequisite: 184-575.

184-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

184-551 Introduction to Microprocessors 3 Cr.

The examination of the working components of a simple microprocessor system, machine language programming, registers, memory, input-output, and application such as security, energy monitor, control, communication and transportation. Prerequisites: 300-101 and basic electronic background or equivalent. F-W

184-552 Electronic Communications 3 Cr.

Electrical/electronic communication systems; modulation, demodulation, r.f. and i.f. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters. Prerequisite: 184-204. F

184-553 Instrumentation and Control 3 Cr.

Industrial measurement, control, open loop, closed loop, analog, digital, electric/electronic, fluidic, mechanical, pneumatic. Prerequisite: 184-371. W

184-554 Electronics/Robotics 3 Cr.

Robotic power and control systems, including base power sources, microprocessor controllers, data handling and programming. Special features such as voice synthesis, motion detection, light detection and noise detection are overviewed. Prerequisites: 184-551, 184-204.

184-555 Electronic System Applications 3 Cr.

Electrical control, interfacing, signal conversion, sensor operation, feedback and electrical power devices as they are used in common applications of manufacturing, construction, transportation and communication systems. Special course fee. Prerequisite: 184-204.

184-574 Microprocessor Fundamentals 3 Cr.

Overview of present day microprocessor technology. Function, analysis and operation of selected microprocessors. Memory, input/output interfacing devices. Basic machine/assembly and structured language programming and hardware application. Prerequisite: 184-371.

184-575 Microprocessor Interfacing 3 Cr.

Interfacing principles of microprocessor based microcomputer systems. Input/output techniques, input/output mapping, synchronous/asynchronous communication, parallel/serial conversion. Microprocessor applications such as control systems, energy monitor, cooking and communications. Prerequisite: 184-574.

184-582 Electronic Communication Systems 3 Cr.

Modern communication systems including transmission lines, wave guides, electromagnetic propagation, basic antenna theory. Introduction to digital communication including bit error probability, digital filtering, pulse code modulation and error detecting and correcting codes. Prerequisite: 184-482.

184-583 Fundamentals of Control 4 Cr.

Analysis of elementary control systems via classical and Laplace transform techniques, frequency response and root locus plots, block diagrams and transfer functions, open and closed loop systems, stability considerations, digital to analog conversion, microprocessor based control systems. Special course fee. Prerequisites: 184-280, 184-574.

184-586 Instrumentation 3 Cr.

Descriptive and analysis of thermal, mechanical, acoustic, optical, pneumatic and electromagnetic sensors, measuring systems, calibration, performance of measuring systems, analog and digital signal conditional. Measurement of frequency and time and analysis and performance of display units. Prerequisite: 184-583.

184-595 Seminar 1-2 Cr.

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. Repeatable for credit. F-W-S

184-597 Field Experience 1 Cr. F-W-S**184-598 Field Experience 1-2 Cr. F-W-S****184-649 Cooperative Education Experience 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

184-683 Control Systems 3 Cr.

Introduction to modern control theory, state variable theory of control systems, controllability and observability, stability of linear and nonlinear systems, discrete time control systems, elementary concepts of optional control systems, control law implementation using microprocessors. Prerequisites: 184-583, 355-275 (corequisite).

184-689 Development Practicum 4 Cr.

Project research and design, specification control drawing documentation. Project construction and a technical paper presentation. Special course fee. Prerequisite: advanced standing.

184-697 Field Experience 1 Cr. F-W-S**184-698 Field Experience 1-2 Cr. F-W-S****184-749 Cooperative Education Experience 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

184-797 Field Experience 1 Cr. F-W-S**184-798 Problems in Electronics 2-6 Cr.**

Substantive study and activity for specialists in the energy transportation field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in power technology. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739, concurrent registration, consent of department chairperson. F-W-S

185-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

Power**185-595 Seminar 1-2 Cr.**

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. Repeatable for credit. F-W-S

185-597 Field Experience 1 Cr. F-W-S**185-598 Field Experience 1-2 Cr. F-W-S****185-603 Problems in Power Transmission 3 Cr.**

Analysis of power transmission problems. Recommendation of alternate solutions including advantages, disadvantages and economic considerations. Prerequisites: 110-240, 185-260, 110-303, 184-348, 110-548 or consent of instructor. W

185-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

185-697 Field Experience 1 Cr. F-W-S**185-698 Field Experience 1-2 Cr. F-W-S****185-749 Cooperative Education Experience 2-8 Cr.**

Work and study in an approved position to gain business/industrial/other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

185-797 Field Experience 1 Cr. F-W-S**185-798 Problems in Power 2-6 Cr.**

Substantive study and activity for specialists in the energy transportation field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in power technology. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739, concurrent registration, consent of department chairperson. F-W-S

Transportation/Energy

186-501 Transportation 2 Cr.

Needs, preparation, methods, destination and control of transportation as it relates to society and industry. Special course fee.

186-504 Energy Technology 3 Cr.

Energy sources, and power applications. Economical, political, and environmental ramifications. Conversion, storage, control, instrumentation, transmission, and utilization. Special course fee. F-W-S

186-506 Energy Management 2 Cr.

Evaluate industrial facilities and equipment for energy efficiency and feasibility of modification for improving consumption; current and alternative techniques for overcoming energy loss. Special course fee. F-W

186-511 Carburetion and Emission 2 Cr.

Operational principles, diagnostic procedures and defective component repair of fuel and emission control systems. Prerequisite: 110-411. W

186-523 Service Management 2 Cr.

Auto service management, planning and layout of service facilities, selection of tools and equipment, and development of curriculum and/or work schedule. W

186-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

186-557 Principles of Technology I 3 Cr.

Contemporary applications of the principles governing force, work, rate, resistance, energy, power, and force transformers in mechanical, electrical, fluid and thermal systems. Technical content especially appropriate for educational applications. Prerequisite: 372-231 or equivalent. F-W-S

186-558 Principles of Technology II 3 Cr.

Applications of the principles of momentum, waves, energy converters, transducers, radiation, optical systems and time constants in contemporary systems of mechanical, electrical, fluid and thermal devices. Technical content especially appropriate for educational applications.

186-595 Seminar 1-2 Cr.

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. Repeatable for credit. F-W-S

186-597 Field Experience 1 Cr. F-W-S

186-598 Field Experience 1-2 Cr. F-W-S

186-614 Transmission and Drive Trains 2 Cr.

Power transmission through gears, clutches and drives common to the automobiles. Fluid couplings, gear sets, differentials, transmissions and drive lines. Prerequisite: 186-314. W

186-622 Automotive Practicum 2 Cr.

Troubleshooting and servicing all automobile functions as typically done in an auto service facility. F

186-630 Aviation/Aerospace Studies 3 Cr.

Classroom, field and optional flight experiences relating to aviation and aerospace industries; details of space exploration, federal licensing regulations, air traffic control and related career guidance information. F

186-631 Private Pilot's Ground School 3 Cr.

Preparation for F.A.A. Private Pilot's Certificate: airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general aircraft operation and flight theory. F-W

186-635 Introduction to Flight 2 Cr.

Flying a single-engine aircraft: applied flight theory, dual flight instruction and solo flight. Prerequisite: 186-631.

186-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

186-697 Field Experience 1 Cr. F-W-S

186-698 Field Experience 1-2 Cr. F-W-S

186-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

186-797 Field Experience 1 Cr. F-W-S

186-798 Problems in Transportation/Energy 2-6 Cr.

Substantive study and activity for specialists in the energy transportation field to include library work, field observation, laboratory work planned by the student and approved and supervised by a faculty consultant in power technology. Preparation of a technical report may be repeated for a maximum of six semester credits. Prerequisites: 190-739, concurrent registration, consent of department chairperson. F-W-S

Industrial Teacher Education

190-520 Seminar 1-3 Cr.

Current topics in industrial/ technology education. Prerequisite: consent of instructor.

190-530 Implementing Technology Education 3 Cr.

Converts the theory of Contemporary Technology Education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school. F-W-S

190-540 Middle School Technology Education 2 Cr.

Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings. F-W-S

190-549 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

190-570 Elements of Instruction 1-2 Cr.

Techniques in the Madeline Hunter method of researched topics of instruction. Teaching to an objective, selecting objectives at the correct level of difficulty, monitor and adjust, and principles of learning including motivation, retention, transfer, set, active participation, reinforcement and closure. F-W-S

190-575 Workshop 1-3 Cr.

Current specialized topics in industrial education through experiential activities. Prerequisite: consent of instructor.

190-597 Field Experience 1 Cr. F-W-S

190-598 Field Experience 1-2 Cr. F-W-S

190-606 Activities in Technology/Vocational Education 2 Cr.

A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

190-631 Field Trips to Industry 1-3 Cr.

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.

190-637 Organization/Management of Technical Laboratories 2 Cr.

Experience in administration, project development and teaching problems associated with industrial education. Prerequisite: 190-205. S

190-638 Course Construction 2 Cr.

Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package and/or unit of instruction. W-S

190-649 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

190-697 Field Experience 1 Cr. F-W-S**190-704 History/Philosophy Technology Education 2 Cr.**

Evolution of modern industrial education through the people, movements, events and institutions that contributed to its formation. Developments and conditions in education and society also considered plus their relationship to the theory and practices of industrial education throughout the years. F-S

190-708 Issues in Technology Education 2 Cr.

A seminar dealing with selected current issues in industrial arts. Developments of abilities to develop a position and defend it, to be critical without being offensive, and to be professional in an emotional atmosphere. Prerequisite: consent of instructor or teaching experience. W-S

190-735 Problems in Industrial/Technology Education 2 Cr.

Identification, selection, and the completion of a problem in industrial education, culminating in a Plan B paper. Prerequisites: 421-740 and 190-739. F-W-S

190-739 Introduction to Research in Vocational/Technology Education 1 Cr.

Study of selection criteria for advanced technical problems in industry and technology, development of techniques appropriate to attacking these problems, identification of industries and organizations relating to these problems and preparation of a detailed proposal to explore a particular problem. Students should enroll for this during their first graduate enrollment and should plan to take the appropriate 1XX-54X, problems in industry and technology, during their next enrollment. F-S

190-746 Seminars in Technology Education 1-3 Cr.

Identifying goals and outcomes for the local school; development of immediate and long-range curriculum plans; cooperating with local school administrative units in planning for improvement; use of the new Wisconsin curriculum guide for industrial education; initial preparation of individual courses of study for the local school program using behaviorally stated objectives. Prerequisite: Possession of a valid contract to teach and intent to teach in a particular local school unit, in which at least 75 percent of the local school industrial education teachers will also be participating in this seminar/ workshop.

190-749 Cooperative Education Experience 2-8 Cr.

Work and study in an approved position to gain business/ industrial/ other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. "X" may be "2," "3," or "4." Prerequisite: consent of instructor or department chairperson. F-W-S

190-770 Thesis—Industrial/Technology Education 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of major director. F-W-S

190-775 Workshop 2-3 Cr.

Special topics providing hands-on or experiential learning activities. Specific Content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

190-797 Field Experience 1 Cr. F-W-S**190-798 Field Experience 1-2 Cr. F-W-S****190-890 Field Study in Industry and Technology 2-6 Cr.**

A study which provides the graduate student with the opportunity to: (1) explore in-depth the body of knowledge associated with his substantive teaching field in industry and technology, (2) provide an educational experience for implementing this knowledge into the classroom situation, and (3) devise methods to determine if this methodology has brought about desired behavioral changes.

Technology

195-520 Technological Advances—Fast Forward I 2 Cr.

Outlines industry's rapid advancements in high technology as utilized in the world today. Reference is made to a variety of applications of this technology now and in the future. F-S

195-521 Technological Advances—Fast Forward II 2 Cr.

Current applications of technology in today's society. Discusses how technological advances have affected educators through simulation, society through technological changes such as storing information, television communication and other new technological advances. W-S

195-530 Understanding Technology 3 Cr.

Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems. F-W-S

195-532 Futures of Technology 2 Cr.

Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer. F

195-540 Future of Work 1-2 Cr.

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present and future to students' individual work situations.

195-597 Field Experience 1 Cr. F-W-S**195-598 Field Experience 1-2 Cr. F-W-S****195-697 Field Experience 1 Cr. F-W-S****195-698 Field Experience 1-2 Cr. F-W-S****195-733 Impacts of Technology 2 Cr.**

A contemporary, historical and futuristic look at some of the economic, sociological, psychological and political implications of industry and technology. Students will identify and investigate several impacts of industry and/or technology to show depth of understanding and relationships between them. F-S

195-797 Field Experience 1 Cr. F-W-S**195-798 Field Experience 1-2 Cr. F-W-S**

Marketing Education

196-501 Marketing Education Project Method 3 Cr.

Designed to develop methods, techniques, questions, activities and resources that center around teaching distributive education via the project method or model store simulation. Prerequisite: 416-201. F

196-555 Marketing Education Seminar 2-3 Cr.

Designed to update marketing and distributive education undergraduates and graduates (*teacher-coordinators*) on work experience, new curriculum, student organization competencies, coordination techniques, special needs, and Distributive Education related projects. Will be used to in-service high school teacher-coordinators and Vocational, Technical and Adult Education marketing teachers.

196-701 Issues in Vocational Marketing Education 2 Cr.

An in-depth study of contemporary issues confronting vocational distributive education. Possible solutions or alternatives will be proposed.

196-702 Improving Marketing Education Methods/Materials 2 Cr.

Identification and analysis of instructional needs; design of instructional alternatives; selection and development of instructional packages; and the evaluation and validation of the resulting products in terms of student learning.

Training and Human Resource Development

198-550 Introduction to Industrial Training 2 Cr.

Philosophy, career opportunities, status of training programs, curriculum and program development, methods and evaluation, overview of facilities. F-W-S

198-560 Training Systems in Business and Industry 3 Cr.

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. S

198-570 Training Methods in Business and Industry 2 Cr.

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training session presentations. F-W-S

198-575 Workshop 1-3 Cr.

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

198-589 Training Internship 2-8 Cr.

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs. Prerequisites: 198-550 or 198-560, grade point average of 2.5, consent of specialization director. F-W

198-600 Workshop 1-3 Cr.

Special topics in training and human resource development providing hands-on or experiential learning activities. Specific content and title to reflect topic of the workshop. Repeatable for credit. F-W-S

198-775 Workshop 1-3 Cr.

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

Vocational Education

199-501 Preservice Workshop for Vocational Educators 1 Cr.

Introduction to the basic concepts of teaching courses in Wisconsin Vocational, Technical and Adult Education schools.

199-502 Principles of Vocational, Technical and Adult Education 2 Cr.
Philosophy, organization and administration of vocational, technical and adult education, nationwide, in Wisconsin and on the local level. F-W-S

199-534 Task Analysis 2 Cr.

Analysis techniques utilized in curriculum development. Emphasis on task analyses and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs. F-S

199-537 Competency Based Education—Vocational/Industrial 2 Cr.

Competencies for Vocational, Technical and Adult Education programs and courses. Development of competency based education performance indicators in all domains, a competency based education management system, and basis for competency based education evaluation. F-W

199-546 Seminar 1-3 Cr.

Current topics in vocational, technical and adult education with application for personnel in the field. Prerequisite: consent of instructor. F-W-S

199-546D Seminar: Sex Equity in Vocational Education 2 Cr.

Part 4 of the 8-day workshop for sex equity project. Repeatable for credit. F-W

199-546E Seminar 1-3 Cr.

Current topics in vocational, technical and adult education with application for personnel in the field. Prerequisite: consent of instructor. F-W-S

199-559 Technology Impacts Occupational Programs 4 Cr.

Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science and computer science. Repeatable for credit. S

199-560 Cooperative Occupational Education Programs 2 Cr.

Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. F-W-S

199-575 Workshop 1-3 Cr.

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

199-580 Computer Aided Instruction— Vocational, Technical and Adult Education 2 Cr.

Applications of the computer in managing vocational, technical and adult education classrooms and laboratories. Utilization of computers in course preparation, evaluation and methods of teaching. Use of existing software and the evaluation of it. Prerequisite: consent of instructor or computer literacy course.

199-585 Computer Applications in Vocational Education 2 Cr.

Presentation of the importance and general applications of computers in the area of vocational education. Prerequisite: computer literate approval of instructor. F-W-S

199-590 Vocational Education: Economic Development Role 2 Cr.

The role of the Wisconsin Vocational, Technical and Adult Education system in response to rapidly changing technology and the economic climate in Wisconsin.

199-597 Field Experience 1 Cr. F-W-S

199-598 Field Experience 1-2 Cr. F-W-S

199-605 Methods of Teaching Vocational Education 2 Cr.

Competency-based and individualized approach to methods of teaching vocational education. F

199-638 Course Construction for Vocational Educators 2 Cr.

Competency-based and individualized approach to principles of course construction for vocational educators. F

199-640 Instructional Evaluation in Vocational Education 2 Cr.
Competency-based and individualized approach to instructional evaluation for vocational educators. F

199-674 Adult Education 2 Cr.
Philosophy and history of adult education in the U.S. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics. Special course fee.

199-697 Field Experience 1 Cr. F-W-S

199-698 Field Experience 1-2 Cr. F-W-S

199-708 Issues in Vocational, Technical and Adult Education 2 Cr.
An in-depth study of contemporary issues affecting vocational, technical and adult education. Possible solutions or alternatives will be proposed. S

199-710 Coordination and Supervision of Vocational Education 2 Cr.
Principles of coordination/supervision in vocational, technical and adult education. The coordinator/supervisory positions are their functional relationship to the vocational education system. F-W-S

199-736 Problems in Vocational Education 2 Cr.
Identification, selection, and completion of a problem in vocational education culminating in a Plan B paper. Prerequisite: 421-740. F-W-S

199-746 Seminar 1-3 Cr.
Special topics on current developments in the field. Each seminar devoted to a specific development to be indicated with sub-title and description.

199-770 Thesis—Vocational Education 2-6 Cr.
Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are completed. F-W-S

199-775 Workshop 1-3 Cr.
Special topics providing hands-on experiential learning activities. Specific content and title to reflect the topic of the workshop. Repeatable for credit. F-W-S

199-780 Internship—Vocational Education 4-8 Cr.
A planned, supervised experience for M.S. or Ed.S. candidates. To be completed at selected locations capable of providing appropriate experiences. Prerequisite: approval of director of major and department chairperson. F-W

199-784 Internship—Local Vocational Education Coordinator 4-8 Cr.
Supervised field practice in local vocational education coordination. To be completed at selected schools or CESA agencies capable of providing appropriate experiences. Prerequisite: approval of the director of the major. F-W

199-792 Administration—Vocational, Technical and Adult Education 2 Cr.
Vocational, technical and adult school operation, legal status, policy making staff personnel, student personnel, programs, public relations, physical plant, business management. Prerequisite: 199-710.

199-797 Field Experience 1 Cr. F-W-S

199-798 Field Experience 1-2 Cr. F-W-S

Interdepartmental — Home Economics

200-700 Trends in Home Economics 2 Cr.
Study of societal trends that will influence the professional areas of home economics in the United States. Emphasis will be on improving the understanding of societal needs, the relationship among home economics areas and the future of home economics services. W-S

Human Development and Family Living

212-507 Parent Education/Involvement 2 Cr.
Parent groups: training of leaders, survey of literature. Practicum with parent groups. Prerequisite: 212-264. F-W

212-520 Theories of Early Childhood Education 2 Cr.
Early childhood education: evolution, theories and principles of current programs, and development of individual philosophy. Prerequisite: 212-408A. F-W

212-524 Child Development II 3 Cr.
Empirical study of physical, intellectual, social and emotional development of children. Prerequisites: 212-124 and 212-264. F-W

212-530 Adulthood and the Family 3 Cr.
Study of adults in the family context during the early and middle years. Prerequisites: 212-124, 212-324. W

212-531 Hospice Clinical Experience 1-2 Cr.
Work with an area hospice organization under the supervision of the hospice consultant or patient care coordinator. Prerequisite: 212-351 or consent of instructor. F-W-S-CB

212-535 Seminar On Self-Growth 2 Cr.
Theories of the self; exploration of aspects of self-development and actualization. Prerequisite: 212-350 or 212-524. F-W

212-540 Family Caregiving to Dependent Elders 1 Cr.
Unique challenges confronting adult children who provide care to aging parents. Government, agency, workplace and family policies and practices promoting and/or undermining family strengths and well-being. F-W-S

212-544 Primary Curriculum: Science, Math, Social Studies 4 Cr.
Curriculum planning for the primary levels of instruction, with particular emphasis on patterns of instructional organization and the planning, implementing and evaluating of sound science, mathematics and social science curricula. Prerequisites: 212-344 and senior standing or consent of instructor. F-W-S

212-545 Exceptional Needs and Programming—Early Childhood 2 Cr.
Program development and implementation for preschool mentally handicapped children. Prerequisite: consent of department. F-W

212-553 Dual Career Families 1 Cr.
The dual career marriage as a form of family life; benefits and problems encountered. F-W-S

212-554 The Single-Parent Family 1 Cr.
Description, statistical trends and problems of single-parent families. F-W

212-570 Singlehood 1 Cr.
Experiences of singles; singlehood as a phase in life cycle and as a life-style in contemporary society. Prerequisite: 212-250. F-W-S

212-585 Family Based Employee Assistance Programs 3 Cr.
Structures and functions of Employee Assistance Programs with employees and their families being the primary unit of analysis and service. Prerequisite: permission by instructor and junior standing F-W-S

212-590 Family Research and Methodology 3 Cr.
Analysis of family theory, research methodology, and selected topics in family relations. Prerequisites: 212-250 and 212-350. W

212-594 Infant-Toddler Programming 2 Cr.
Practical and theoretical issues relating to the development of programming for infants and toddlers, including infant-toddler development, curriculum development, working with parents, and program evaluation. Prerequisites: 212-124 and 212-160 or consent of instructor. F-W-S

- 212-595 Special Topics in Human Development 1-2 Cr.**
Special topics in human development; repeatable for different topics. Prerequisite: junior standing. Repeatable for credit. F-W-S
- 212-601 Child and Family Law 3 Cr.**
Legal issues affecting children and families. Prerequisites: 212-250, 212-350 and junior standing. W
- 212-605 Family Health Care: Issues and Dilemmas 2 Cr.**
A descriptive review of four health-care issues facing the American family with special emphasis on the impacts of advanced technology in health-care. Prerequisite: junior standing or consent of instructor. W
- 212-607 Parent Counseling 2 Cr.**
Approaches and techniques for working with parents; observation and experience in child rearing problems parents face. Prerequisites: 212-124 and 212-264. W
- 212-610 Family Impact Seminar 3 Cr.**
Content, methods and process of assessing impact of public policy on children and families. Prerequisites: 212-250, 212-350, 375-510 or consent of instructor. W
- 212-615 Family Stress, Coping and Adaptation 1 Cr.**
Impact of family development and stress on individual and family well-being. Prerequisite: 212-250. S
- 212-624 Advanced Child Study 3 Cr.**
A study of principles and review of literature pertaining to children. Prerequisites: 212-124 and 212-264.
- 212-626 Special Topics in the Study of Family Life 1-3 Cr.**
Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350 or consent of instructor. Repeatable for credit. F-W-S
- 212-626A Special Topics in the Study of Family Life 1-3 Cr.**
Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350. Repeatable for credit. F-W-S
- 212-626B Special Topics in the Study of Family Life 1-3 Cr.**
Family life programs and literature; individual study of problems of personal or professional interest. Prerequisite: 212-350 or consent of instructor. Repeatable for credit. F-W-S
- 212-637 Seminar in Child Development 2 Cr.**
Special problems and aspects in child development; preference given to students' interests. Prerequisite: consent of instructor. F-W
- 212-638 Child Abuse and Neglect 2 Cr.**
How child abuse and neglect affects the abused/neglected child and the abusing/neglecting family; ways of coping with family and social problems. Prerequisites: 212-124, 212-250 or consent of instructor. F
- 212-641 Understanding Children's Play 2 Cr.**
Definitions, theories and types of play; the role of adults in fostering play, and the contributions of play to other areas of children's development. Prerequisites: 212-124, 212-294 or consent of instructor. W-S
- 212-650 Introduction to Marriage and Family Therapy 3 Cr.**
Conceptual frameworks and approaches to marriage and family counseling. Prerequisite: consent of instructor. F
- 212-651 Marriage and Family Therapy Seminar 3 Cr.**
Application of basic counseling techniques in premarital, marital, family and couples-group counseling; supervised by professional marriage and family counselor. Prerequisite: 212-650 or consent of instructor. W
- 212-653 Relationship Communication Training 2 Cr.**
Communication theories and skills applied to marital, family and other intimate relationships. Application of communication skills to personal relationships and professional work. (*Preferably, but not necessarily, have your premarital or marital partner with you.*) Prerequisite: consent of instructor. F
- 212-654 The Workplace and the Family 2 Cr.**
Linkages between families and workplace; corresponding consequences for individual family well-being and the workplace. Prerequisites: 212-124 and 212-250 or consent of instructor. W
- 212-660 Current Topics in Sexuality 1 Cr.**
Overview and evaluation of current research concerning human sexual behavior and attitudes. Prerequisite: 212-250. F-W-S
- 212-664 Special Topics in Early Childhood Curriculum 1-3 Cr.**
Philosophy and methodology of early childhood education: problems confronting teachers. Prerequisite: 212-303. Repeatable for credit. F-S
- 212-664A Special Topics in Early Childhood Curriculum 1-3 Cr.**
Philosophy and methodology of early childhood education: problems confronting teachers. Repeatable for credit. F-W-S
- 212-665 Administration—Early Childhood Education Programs 3 Cr.**
A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required. Prerequisite: 212-408B. F
- 212-666 Family Planning 1 Cr.**
Factors influencing family planning; knowledge and services for effective family planning practice. Prerequisite: one undergraduate course in family relations.
- 212-680 The Aging Person 2 Cr.**
Characteristics and needs of aged members of society; intergenerational relationships of family members. F-W
- 212-685 Seminar—The Culturally Distinct Child and Family 2 Cr.**
Study of cultural, ethnic, racial and economic influences on the child and family in the United States. Emphasis on knowledge and skills to improve human relations in settings serving young children and families. Prerequisite: 212-324 or 212-350. F-W
- 212-686 Experience: The Culturally Distinct Child and Family 1 Cr.**
Intensive experience working directly with racial, cultural or economic groups whose background the student does not share. Prerequisite: prior or current enrollment in 212-685. F-W
- 212-690 Death Education and Counseling in Families 2 Cr.**
Death and dying theory; research, practice and application in education and individual and family counseling. Prerequisite: 212-351 or consent of instructor.
- 212-693 Practicum in Child Development and Family Life 4-8 Cr.**
Practicum experiences in child development, family relationships and human resource management within a community agency, business or organization. Prerequisite: consent of instructor. F-W-S
- 212-703 Seminar in Child Development 2 Cr.**
Advanced seminar in study of all aspects of child development.
- 212-707 Issues and Problems in Parent Education 2 Cr.**
A study of the issues and problems of parent groups and the training of parent-group leaders. Prerequisite: 212-407 or consent of instructor.
- 212-715 Theories of Family Processes 2 Cr.**
Advanced analysis of family interaction theory. Emphasis is on normal family processes as they apply to the practice of marital and family intervention. Prerequisite: 212-590 or consent of instructor. F-W-S

212-742 Human Development 2 Cr.

Human development theory, research, changing trends, problems and interpretations will be explored. Emphasis on application of scientific knowledge to practical relationships with children in the family, school, and community and implications of child development concepts towards understanding of self and others.

212-750 Systems of Marital and Family Therapy 3 Cr.

Survey of conceptual frameworks and approaches to marital and family therapy from a systems point of view. Prerequisite: 212-650 or consent of instructor. F

212-751 Seminar in Marriage and Family Therapy 3 Cr.

Advanced and in-depth study of the issues, skills and methods in premarital intervention and marriage and family therapy. Prerequisite: 212-750 or consent of instructor. W

212-755 Professional Issues in Marriage and Family Therapy 3 Cr.

Exploration of the issues in the development of professional skills, attitudes and identity in the area of marriage and family therapy. Prerequisites: 212-750, 212-751 or consent of instructor.

212-760 Sex Therapy Seminar 2 Cr.

This course is offered to graduate students, who have already taken basic course in human sexuality and who plan to work in the helping professions. Its main goal is to provide participants with the basic skills, knowledge and attitudes that will enable them to help clients solve problems related to sexuality. Prerequisite: 212-660 or course deemed equivalent by instructor. W

212-764 Marriage and Family Therapy Prepracticum Seminar 1 Cr.

Preparation for delivery of clinical services to couples and families and clinical management will be addressed. Students will also establish orientation to the clinical practice of marital and family therapy in a state certified outpatient mental health/alcohol and other drug abuse clinic. Prerequisite: admission to the M.S. in Marriage and Family Therapy program. W-CB

212-766 Problems in Early Childhood Education 3 Cr.

Overview of issues in early childhood education with emphasis on problems confronting teachers in establishing early childhood programs in communities and schools.

212-793 Marriage and Family Therapy Practicum I 4 Cr.

Preparation for professional marriage and family counseling services through seminar discussions, observation, and supervised counseling experience. Prerequisite: personal screening and approval by instructor or admission without deficiency to the proposed program in Marriage and Family Therapy; concurrent registration in 413-793; commitment to second semester sequel—enrollment in 413-794 and 212-794. F

212-794 Marriage and Family Therapy Practicum II 4 Cr.

Sequel to 212-793. Continuing preparation for professional marriage and family counseling services through seminar discussions, observation, and supervised counseling. Prerequisite: successful completion of 212-793 and 413-793; concurrent registration in 413-794.

Apparel, Textiles and Design**214-519 International Economic Trends in Textiles/Clothing 3 Cr.**

Economic importance of the textile and apparel industries in the United States and the world. Prerequisites: 214-140 and 320-210. F-W

214-525 Men's and Boys' Merchandising 1 Cr.

Specialized techniques of merchandising men's wear and boys' wear: stock planning, market trends and controls. Prerequisite: 214-327. F-W

214-527 Store Management 3 Cr.

Develop management skills for retail stores of varying size. Prerequisites: 214-430 or consent of instructor, senior or graduate standing. F-W

214-533 Direct Mail Retail 3 Cr.

Direct mail options available in retailing. Creation and development of appropriate vehicles. Prerequisites: 160-370 and junior standing or consent of instructor. F-W

214-535 Special Topics in Fashion Merchandising 1-2 Cr.

Special topics in fashion merchandising. Repeatable for different topics. Prerequisites: junior standing, completion of basic courses within the area or consent of instructor. Repeatable for credit. F-W-S

214-535A Special Topics in Fashion Merchandising 1-2 Cr.

Special topics in fashion merchandising. Repeatable for different topics. Repeatable for credit. F-W-S

214-550 Textile Evaluation 3 Cr.

Problems in fiber identification, fabric performance and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. Prerequisite: 214-140. F-W

214-555 Special Topics in Textiles and Clothing 1-2 Cr.

Special topics in clothing and textiles. Repeatable for different topics. Prerequisite: junior standing. Repeatable for credit.

214-568 Engineered Tailoring 3 Cr.

Industrial production methods applied to construction of tailored garments. Special course fee. Prerequisite: 214-166. F

214-581 Functional Clothing Design 3 Cr.

Application of physical science theory to problems in clothing design: impact protection and thermal balance of the human body, structural properties of materials, and apparel forms. Special course fee. Prerequisites: 214-368, 214-550, 214-580. F

214-590 Practicum in Textile Design 3 Cr.

Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique and hooking; emphasis on good design and creativity. Prerequisites: 304-101 or consent of instructor. F-W

214-591 Natural Dyeing and Hand Spinning 2 Cr.

Gather dyes from local environment, select mordants, dye fibers; spin dyed fibers on spinning wheels/drop spindles; historic dimensions. Special course fee. S

214-593 Design Problems in Textile Printing 3 Cr.

Advanced textile printing practicum with specific concern for design problems. Special course fee. Prerequisite: 214-492 or consent of instructor.

214-594 Knit Design and Technology 2 Cr.

Basic stitch formation and patterning of warp and filling knits. Influences on aesthetics and performance of knit fabrics. Production of knitted garments on a flatbed knitting machine. Special course fee. Prerequisite: 214-140. F-W-S

214-605 International Study Tour to the Fashion Industries 1-6 Cr.

Tour of international centers of clothing, textiles, and related arts. Study of the cultural patterns. Program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries. Repeatable for credit. S

214-610 History of Costume—Ancient to European 3 Cr.

Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume. F

214-611 History of Fashion-19th Century to Present 3 Cr.

A study of the evolution of fashion from the 19th century to the present concentrating on the impact of the fashion designer and changing fashion trends. W

214-617 Social/Psychological Aspects of Clothing 3 Cr.

Social and psychological influence of dress on individual and group behavior patterns. F-W

214-619 National Study Tour to Fashion Industry 1 Cr.

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Prerequisites: consent of instructor and junior, senior or graduate standing. Repeatable for credit. W

214-625 Mass Merchandising 2 Cr.

Comparative history, planning, design, and techniques of merchandising and operations. Prerequisites: 214-227, 214-339. F-W

214-626 Fashion Retailing Practicum 4 Cr.

Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment. Prerequisites: 214-329 and 214-430 or consent of instructor. F-W-S

214-674 Apparel Manufacturing: Computer Management Systems 3 Cr.

Computer use in managing apparel designs, manufacturing and data interchange. Special course fee. Prerequisites: 214-275, 214-280 and 214-274. F-W

214-680 Draping 3 Cr.

Application of draping principles in design and construction of garments; emphasis on creativity. Prerequisite: 214-266. F-W

214-685 Apparel Design Studio 2 Cr.

Analysis of designer responsibilities. Creation and development of original designs using flat pattern and/or draping techniques. Preparation of a professional portfolio. Prerequisites: 214-581, 214-680, 304-534. W

214-690 Advanced Fiber Design 1-3 Cr.

Creative exploration of textile design: stitchery and applique. Prerequisite: 214-590. W-SO

214-693 Structural Design and Weaving 2 Cr.

Experiences in loom weaving including two and four harness techniques. Special course fee. Prerequisite: 304-101 or consent of instructor. F-W-S

214-694 Advanced Weaving Studio 2 Cr.

Complex hand-weaving techniques: block theory, pile constructions, leno techniques and double cloth. Individual work encouraged. Special course fee. Prerequisite: 214-693 or equivalent. F-W-S

214-695 Historic and Contemporary Fabrics 3 Cr.

Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience. W

214-755 Topics in Clothing and Textiles 1-2 Cr.

In-depth investigation of a specific area of clothing or textiles. A current topic that lends itself to a lecture discussion method of instruction will be selected for study. Prerequisite: consent of instructor.

214-765 Workshop in Clothing and Textiles 1-2 Cr.

Opportunity for cooperative work in some aspect of clothing study. Prerequisite: teaching experience.

214-768 Problems in Textiles, Clothing and Retail Marketing 2 Cr.

Identification, selection and completion of a problem in textiles, clothing, and retail marketing culminating in a Plan B paper. Prerequisite: 421-740. F-W-S

214-769 Design Option Thesis 2-6 Cr.

Independent research under direction of investigation adviser. Culminating in a design show. A descriptive paper written according to thesis standards, including slides, will be presented. Prerequisites: 421-740 and approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

214-770 Thesis—Textiles, Clothing and Retail Marketing 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Prerequisites: 421-740, approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

214-780 Advanced Draping 1 Cr.

Manipulation of various fabrics on a dress form to develop garments from given and self designed sketches that reflect advanced techniques. Construct garments from patterns. Prerequisite: 214-680.

214-781 Advanced Flat Pattern 2 Cr.

Draft and develop paper patterns for garments by varying a master pattern from given and self-designed sketches that reflect advanced techniques. Construct garments from pattern. Prerequisites: 214-280, consent of instructor.

214-790 Seminar in Textiles, Clothing and Retail Marketing 2 Cr.

Review, evaluation and interpretation of current research in textiles, clothing and retail marketing. Prerequisite: consent of instructor or minimum of six credits in textile art area.

214-792 Advanced Practicum in Textile Printing 3 Cr.

Independent exploration of selected textile printing techniques emphasizing design, process, production and costing. Special course fee. Prerequisite: 214-592.

Food and Nutrition

229-505 Nutrition for the Aged 2 Cr.

Nutrient requirements and food consumption patterns of the elderly; food services for aging Americans. Prerequisite: 229-212 or consent of instructor. W

229-525 Special Topics in Food and Nutrition 1-2 Cr.

Study of special topics in Food and Nutrition. Prerequisites: 229-212, consent of instructor and for 500 level, completion of basic courses in the area. Repeatable for credit. F

229-525A Special Topics in Food and Nutrition 1-2 Cr.

Study of special topics in Food and Nutrition. Prerequisites: 229-212, consent of instructor and for 500 level, completion of basic courses in the area. Repeatable for credit. F

229-542 Advanced Foods 2 Cr.

Comparative studies of food selection and preparation; appraisal of foods. Prerequisite: 229-124 or 229-240. F-W

229-550 Fast Food Operations 3 Cr.

Organization and function of fast food service operations. Work methods procedures, staffing, food quality and quantity control, space and equipment maintenance, safety, sanitation, merchandising and career options will be covered. Not available for credit to students who have taken 245-550. Prerequisites: 229-124 or 229-240, 229-308 and 245-311. F-W

229-555 Sports Nutrition 3 Cr.

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized. Prerequisites: 229-410 and 308-132 and 311-511 or consent of instructor. W-S

229-597 Field Experience 2 Cr.

229-604 Food Service Practicum for Child Care Centers 1 Cr.

Application of food management principles for directors of child care centers: personnel management, menu planning; recipe selection, standardization and adjustment; food purchasing and storage, food production and service, equipment use, sanitation and safety, and nutrition education in day-care setting. Graduate Objective: Analyze food and nutrition services of a child care operation and develop a plan of action for a stated function. F-W

229-606 Nutrition Education 3 Cr.

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. Prerequisites: 229-212, 242-201, 229-308, 229-410 or consumer course if required in program, consent of instructor, and junior standing. F-W

229-612 Clinical Experience—Community Nutrition Programs 1 Cr.

Practical experience with community nutrition program; basic nutrition program or food service operation and nutrition education activity. Recommended: 229-618 and 229-630. Prerequisites: 229-308 and 229-410 and 229-606 and 229-380. F-W

229-618 Diet Therapy 4 Cr.

Principles and methods for use of diet as therapy in certain pathological conditions. Prerequisites: 229-308, 229-410. F-W

229-620 Food Styling 1-3 Cr.

Food as media for artistic expression; effective use of color, form and texture. Prerequisites: 229-124 or 229-249 and senior or graduate standing or consent of instructor. Repeatable for credit. F-W-S

229-630 Food Behavior 3 Cr.

Food behavior: how it controls eating problems, resultant nutritional status; formation of food patterns to meet physical, physiological, psychological or social needs; modification of food behavior. Recommended: courses in social and behavioral sciences. Prerequisite: senior or graduate standing and 229-212 (*preferably within past two years*). F

229-633 Maternal and Child Nutrition 3 Cr.

Application of principles to maternal, infant, child and adolescent nutrition. Prerequisites: 229-212 and 308-132. F-W

229-638 Experimental Foods 3 Cr.

Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area. Prerequisites: 229-124 or 229-240 and 311-201. F-W

229-650 Food Processing 3 Cr.

Industrial methods used to prepare and preserve food. Prerequisites: 229-124 or 229-240, 355-120. W

229-661 Social and Cultural Aspects of Food 2 Cr.

Social, economic and cultural influence on human food patterns. Prerequisites: 229-124 or 229-240 and senior or graduate standing or consent of instructor. F-W-SO

229-697 Field Experience 2 Cr.**229-701 Trends in Nutrition 1-2 Cr.**

Practical application of recent developments in the field of nutrition. Prerequisite: 229-212. Repeatable for credit.

229-702 Minerals and Vitamins 3 Cr.

Absorption and intermediary metabolism of minerals and vitamins. Prerequisite: 299-410.

229-705 Geriatric Nutrition 2 Cr.

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly—theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

229-708 Food Seminar 2 Cr.

Discussion and interpretation of recent developments in food preparation, food processing and food products. Choice of problems based on the needs and interests of the students. Repeatable for credit.

229-710 Clinical Nutrition 3 Cr.

Innovative approaches in nutrition therapy. Clinical experience offered in area hospitals. Prerequisite: 229-618, or equivalent.

229-711 Nutrition Seminar 2 Cr.

Discussion and interpretation of recent developments in fundamental and applied nutrition. Choice of problems based on needs and interests of students. Repeatable for credit.

229-712 Practicum in Community Nutrition Programs 1-2 Cr.

Advanced experience in community nutrition programs. Individual project in nutrition counseling, identification, delivery and evaluation of nutrition and appropriate food services. Prerequisites: 229-606, 229-618, 229-680, 229-630, consent of instructor. Repeatable for credit.

229-720 Workshop in Foods 1 Cr.

Individual and group investigations and solutions of problems in foods/food service. Prerequisite: graduate standing. Repeatable for credit.

229-729 Proteins 3 Cr.

Digestion, absorption and intermediary metabolism of protein. Prerequisite: 229-410.

229-736 Carbohydrates and Lipids 3 Cr.

Digestion, absorption and intermediary metabolism of carbohydrates and lipids. Prerequisite: 229-410.

229-740 Food Preservation Technology 3 Cr.

Application and evaluation of the technology of food preservation to selected areas in food science. Prerequisites: 311-511 and 308-206.

229-742 Sensory Evaluation of Food 2 Cr.

Selection, identification and measurement of food evaluation tools using consumer and laboratory sensory panels.

229-746 Food Innovations 2-3 Cr.

Effects of food industry innovations on preparation and service of foods.

229-747 Problems in Food Science and Nutrition 2 Cr.

Identification, selection and completion of a problem in food science and nutrition, culminating in a Plan B paper and oral presentation of the paper. Prerequisite: 421-740. F-W-S

229-756 Advanced Experimental Food 3-4 Cr.

Principles of research methods applied to directed investigations in food preparation. Prerequisite: 229-638. F-W

229-770 Thesis—Food Science and Nutrition 1-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, preparation of the final paper according to thesis standards and oral presentation of the research. Student may enroll for variable semester hours of credit in various terms with a final total of six. Prerequisites: 421-740, approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

229-797 Field Experience 2 Cr.

Home Economics Education

242-500 Externship—Home Economics Community Education 4-8 Cr.

Practicum in one or more of the following home economics education programs: extension services, elementary education, post-secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit. Prerequisite: consent of department. F-W

242-544 Future Homemakers of America Workshop 1-2 Cr.

Integration of Future Homemakers of America and the Home Economics Related Occupations student organizations into the home economics classrooms and programs. Prerequisite: junior standing.

242-597 Field Experience in Home Economics 2 Cr.

Field experience related to home economics skills and knowledge used in teaching home economics wage earning courses at secondary level. F-W-S

242-620 Vocational Programs in Home Economics 2 Cr.

Techniques, materials and curriculum for home economics wage-earning programs in secondary and post-secondary schools; preliminary procedures for program development. Prerequisites: 199-502 and 242-301. F-W

242-651 Family Life Education Programs 2 Cr.

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. Prerequisites: senior standing, consent of instructor. F-W

242-708 Curriculum Studies in Home Economics 2 Cr.

Principles of curriculum construction. Review of recent literature on curriculum development. Evaluation of curriculum practice and techniques. F-SO

242-710 Applied Evaluation in Home Economics 2 Cr.

Theory and application of principles in planning evaluation techniques in home economics to assess behavioral changes in the cognitive, affective and psychomotor domains. Prerequisite: graduate standing. W-SE

242-720 Special Topics in Home Economics Education 1-2 Cr.

Consideration of problems in contemporary living that are affecting home economics education and their influence on the teaching of homemaking. Repeatable for credit. S

242-720A Special Topics in Home Economics Education 1-2 Cr.

Consideration of problems in contemporary living that are affecting home economics education and their influence on the teaching of homemaking. Repeatable for credit. F-W-S

242-725 Graduate Internship in Home Economics 8 Cr.

A clinical assignment in a school for one semester during which time the student integrates in-depth academic knowledge and pedagogical skill. Prerequisite: completion of home economics/family life undergraduate concentration. Admitted to M.S. in Home Economics program or approval of graduate program director. F-W

242-744 Seminar in Home Economics Education 1-2 Cr.

Issues in home economics education. Repeatable for credit. F-W-S

242-770 Thesis—Home Economics 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740, approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

242-775 Problems in Home Economics 2 Cr.

Identification, selection and completion of a problem in home economics education, culminating in a Plan B paper. Prerequisite: 421-740. F-W-S

Habitational Resources**245-501 Food Service Administration 3 Cr.**

Organization and administration of institutional food service systems, personnel selection and training, cost control and problems of supervision. Prerequisite: 229-318. F-W

245-513 Quantity Food Production and Service 3 Cr.

Application of food preparation principles to large-quantity production; menu and formula standardization, food production costs and menu planning for institutions. Prerequisite: 245-312 or 245-501. F-W-S

245-515 Lodging Administration 3 Cr.

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. Prerequisites: 245-201 and 245-202. F-S

245-521 Food Service Equipment 2 Cr.

Factors affecting design, selection, physical facilities and utilities involved in food service equipment. Prerequisite: 183-110. F-W-S

245-550 Fast Food Operations 3 Cr.

Organization and function of fast food service operations. Work methods procedures, staffing, food quality and quantity control, space and maintenance, safety, sanitation, merchandising and career options will be covered. Not available for credit to students who have taken 229-550. F-W

245-565 Consumer Aspects of Life Insurance 1 Cr.

Comparative methods of determining life insurance needs; evaluation of adequacy of policy and program features; relevance to family financial planning. Prerequisite: 245-275 or consent of instructor. F

245-566 Consumer Aspects of Health Insurance 1 Cr.

Types and sources of health insurance available to U.S. consumer; analysis of American health-care crisis and proposed solutions. Prerequisite: 245-275 or consent of instructor. F

245-597 Field Experience 2 Cr.**245-598 Hotel and Restaurant Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-100. F-W-S

245-600 Integrated Management Systems—Hospitality 2 Cr.

Exploration, comparison and synthesis of practices, concepts and theories in hospitality management systems. Prerequisite: 245-205. F-W-S

245-614 Catering 3 Cr.

Theory and application of operational and managerial principles for on/off-premise catering for special events. (Cannot be taken for credit by students who have previously taken 229-614.) Prerequisites: 229-124, 229-260 or consent of instructor, junior standing or above. F-W

245-625 Hospitality Industry Law and Liability 3 Cr.

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality. Prerequisite: 160-318. F-W

245-626 Hospitality Industry—Employee and Labor Relations 2 Cr.

Investigation of employee and labor relations in the hospitality industry; history, legality and techniques of dealing with unionization. F-W

245-640 Sociocultural System of Tourism 3 Cr.

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. W

245-644 Resort Planning and Operation 3 Cr.

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management. Prerequisite: 245-340 or consent of instructor. W

245-645 Geography of Tourism 3 Cr.

Locational analysis of land use and human migration in national and international tourism. Prerequisites: 245-240, 245-340 or consent of instructor. F-W

245-656 Microwave Oven 2 Cr.

Application of microwave heating principles to food preparation and service. F-W-S

245-660 Consumer Credit 1 Cr.

Types and sources of credit, determination of credit costs, considerations before using, and regulatory laws. Prerequisite: 245-360 or consent of instructor. S

245-662 Consumer Protection 1 Cr.

Major federal and state consumer protection agencies; major business, industry and private organizations set up to aid consumers; avenues of individual and collective consumer redress. Prerequisite: 245-360 or consent of instructor. W

245-663 Consumer Law 1 Cr.

Major federal and state consumer protection laws, difficulties in obtaining passage and implementation, and pending federal and state consumer protection legislation. Prerequisite: 245-360 or consent of instructor. F-W

245-670 Hospitality—Financial Analysis/Budget/Forecasting 3 Cr.

Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry. Prerequisites: 160-206, 245-370 and 245-371. F-W-S

245-676 Family Finance 2 Cr.

Financial decisions and judgments that average individuals and families must make during a lifetime; income and occupation, family expenditures, credit, savings, taxes and estate plans. Prerequisite: 320-201. F-W

245-678 Financial Planning for Retirement 2 Cr.

Financial considerations made in preparing for and during retirement. Emphasis on the values, goals, income, expenditures, credit, savings, investments, taxes and estate plans. Prerequisite: Senior standing. F-W-S

245-681 Special Problems in Habitational Resources 2 Cr.

Current problems in habitational resources; seminar topic chosen by instructor, individual or group. Repeatable for credit. F-W-S

245-681A Special Problems in Habitational Resources 2 Cr.

Repeatable for credit. F-W-S

245-682 Hospitality and the Handicapped Traveler 1 Cr.

Provide increased sensitivity to needs of handicapped traveler; problems and possible solutions for hospitality organizations. F-W

245-684 Seminar in Property Management 2 Cr.

Culminating professional course for the property management minor program. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. Prerequisite: reserved for final semester for students in property management minor. W

245-697 Field Experience 2 Cr.**245-698 Hotel and Restaurant Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-100. F-W-S

245-700 Management Concepts in Food Administration 1 Cr.

Management concepts as they apply to institutional foodservice operations. W-S

245-701 Food Service Administration Management—Implementation 1 Cr.

The implementation of selected management concepts which will make food service administrators more effective in their roles as food service managers. F

245-702 Operational Controls in Food Service Management 1 Cr.

A management plan designed to incorporate all necessary controls the institution needs to minimize incurred expenses and maximize work performance associated with production. S

245-703 Seminar in Analysis of Food Service Management 3 Cr.

In-depth study of the management systems used in the hotels, restaurants and institutions. W

245-710 Issues in Hospitality and Tourism 2 Cr.

Significant topics, trends and issues in hospitality and tourism are investigated, developed and presented. Prerequisite: admission in hospitality and tourism. F

245-747 Hospitality and Tourism Research Interpretation 3 Cr.

Interpretation of advanced qualitative and quantitative research findings in the hospitality and tourism industries. Includes examination of data collection techniques and current research trends, including segmentation, group differentiation, product positioning and image formation. Prerequisites: 421-740 and 354-530. W

245-780 Seminar in Hospitality and Tourism 1 Cr.

Discussion and interpretation of recent research in hospitality and tourism. Choice of problems based upon the needs and interests of the students. Prerequisite: graduate standing. F-W

245-788 Publication in Hospitality and Tourism 3 Cr.

Independent writing and research in the field of hospitality and tourism under direction of an adviser followed by submission of final manuscript to a professional refereed journal for publication consideration. Quantitative or qualitative manuscripts are acceptable. Manuscript acceptance by refereed journal or by internal Board of Review is required to satisfy creative intellectual inquiry requirements. Prerequisite: full graduate standing. F-W-S

245-789 Thesis in Hospitality and Tourism 1-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, research methodology, conducting of research, interpretation of findings, and preparation of the final draft according to thesis standards. Student may enroll for variable credits in various semesters with a final total of six. Prerequisites: 421-740 and approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

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Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-100. F-W-S

Interdepartmental — Liberal Studies**300-510 Introduction to Women's Studies 2 Cr.**

An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future. F-W

300-511 Topics in Women's Studies 1-3 Cr.

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Prerequisite: 300-510 or consent of instructor.

300-575 The Ascent of Man 2 Cr.

Exploring the nature and intellectual, philosophical and technical growth of humankind using "The Ascent of Man" TV series as basis for thought and discussion. Prerequisite: junior standing or consent of instructor. W

Anthropology**303-610 The Anthropological Study of Family Systems 3 Cr.**

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Prerequisite: 303-220 or consent of instructor. W

303-660 Anthropology of Human Relations 2 Cr.

Human relations, viewed intraculturally and cross-culturally, explored through family culture and its networks with the greater society, world view systems, and communication patterns. Applications to specific Wisconsin cultures. W

Art**304-500 Drawing II 1-3 Cr.**

Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-100. Repeatable for credit. F-W

304-501 Life Drawing I 3 Cr.

Drawing the human figure in action or at rest; problems in figure composition. Prerequisites: 304-100 and 304-500. F-W

304-502 Life Drawing II 1-3 Cr.

Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits. Prerequisite: 304-501. Repeatable for credit. F-W

242-651 Family Life Education Programs 2 Cr.

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. Prerequisites: senior standing, consent of instructor. F-W

242-708 Curriculum Studies in Home Economics 2 Cr.

Principles of curriculum construction. Review of recent literature on curriculum development. Evaluation of curriculum practice and techniques. F-SO

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Financial considerations made in preparing for and during retirement. Emphasis on the values, goals, income, expenditures, credit, savings, investments, taxes and estate plans. Prerequisite: Senior standing. F-W-S

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Current problems in habitational resources; seminar topic chosen by instructor, individual or group. Repeatable for credit. F-W-S

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Culminating professional course for the property management minor program. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. Prerequisite: reserved for final semester for students in property management minor. W

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245-780 Seminar in Hospitality and Tourism 1 Cr.

Discussion and interpretation of recent research in hospitality and tourism. Choice of problems based upon the needs and interests of the students. Prerequisite: graduate standing. F-W

245-788 Publication in Hospitality and Tourism 3 Cr.

Independent writing and research in the field of hospitality and tourism under direction of an adviser followed by submission of final manuscript to a professional refereed journal for publication consideration. Quantitative or qualitative manuscripts are acceptable. Manuscript acceptance by refereed journal or by internal Board of Review is required to satisfy creative intellectual inquiry requirements. Prerequisite: full graduate standing. F-W-S

245-789 Thesis in Hospitality and Tourism 1-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, research methodology, conducting of research, interpretation of findings, and preparation of the final draft according to thesis standards. Student may enroll for variable credits in various semesters with a final total of six. Prerequisites: 421-740 and approval of major director. Total credits must accumulate to 6.0. In-progress grading option appropriate until the 6.0 credits are earned. F-W-S

245-797 Field Experience 2 Cr.**245-798 Hotel and Restaurant Field Experience 1-2 Cr.**

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-100. F-W-S

Interdepartmental — Liberal Studies

300-510 Introduction to Women's Studies 2 Cr.

An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future. F-W

300-511 Topics in Women's Studies 1-3 Cr.

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Prerequisite: 300-510 or consent of instructor.

300-575 The Ascent of Man 2 Cr.

Exploring the nature and intellectual, philosophical and technical growth of humankind using "The Ascent of Man" TV series as basis for thought and discussion. Prerequisite: junior standing or consent of instructor. W

Anthropology

303-610 The Anthropological Study of Family Systems 3 Cr.

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Prerequisite: 303-220 or consent of instructor. W

303-660 Anthropology of Human Relations 2 Cr.

Human relations, viewed intraculturally and cross-culturally, explored through family culture and its networks with the greater society, world view systems, and communication patterns. Applications to specific Wisconsin cultures. W

Art

304-500 Drawing II 1-3 Cr.

Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-100. Repeatable for credit. F-W

304-501 Life Drawing I 3 Cr.

Drawing the human figure in action or at rest; problems in figure composition. Prerequisites: 304-100 and 304-500. F-W

304-502 Life Drawing II 1-3 Cr.

Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits. Prerequisite: 304-501. Repeatable for credit. F-W

- 304-503 Design 3 Cr.**
Application of basic design principles using various media for development of visual sensitivity to three-dimensional form. Prerequisite: 304-101. F-W
- 304-509 Painting I 3 Cr.**
Introduction to character and use of various painting media; work from still life and life with reference to problems of two-dimensional color composition. Prerequisite: 304-500. F-W-S
- 304-510 Painting II 1-3 Cr.**
Advanced work in oil painting; exploitation of medium for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-509. Repeatable for credit. F-W-S
- 304-511 Sculpture I 3 Cr.**
Introduction to sculptural concepts. Prerequisite: 304-500, or equivalent. F-W
- 304-512 Sculpture II 1-3 Cr.**
Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits. Prerequisite: 304-511. Repeatable for credit. F-W
- 304-513 Ceramics I 3 Cr.**
Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment. F-W-S
- 304-514 Ceramics II 1-3 Cr.**
Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for 3 credits. Prerequisite: 304-513. Repeatable for credit. F-W-S
- 304-515 Art Metal I 3 Cr.**
Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction. Prerequisite: 304-101, or equivalent. F-W-S
- 304-516 Art Metal II 1-3 Cr.**
Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for 3 credits. Prerequisite: 304-515. Repeatable for credit. F-W-S
- 304-517 Printmaking I 3 Cr.**
Introduction to the concepts and techniques of printmaking. Prerequisites: 304-100 and 304-101. F-W-S
- 304-518 Printmaking II 1-3 Cr.**
Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits. Prerequisites: 304-500 and 304-517. Repeatable for credit. W-S
- 304-520 Clay and Glaze Laboratory 1 Cr.**
Procedures and processes in testing of clays; formulation of clay bodies and development of clay slips and ceramic glazes for artist/potter. Prerequisite: 304-513 or 304-514 or consent of instructor.
- 304-522 Modern Art 3 Cr.**
The main currents and developments in art from Monet and Cezanne to 1950. F
- 304-523 Survey of Art—Ancient Through Medieval 3 Cr.**
The painting, sculpture, architecture and minor arts in the ancient western world.
- 304-524 Survey of Art—Renaissance Through 20th Century 3 Cr.**
Sculpture, painting, architecture and minor arts of western world from 14th century to present.
- 304-525 Egyptian and Mesopotamian Art 3 Cr.**
The evolution of the arts of ancient Egypt and the Near East.
- 304-526 Greek and Roman Art 3 Cr.**
The arts of ancient Greece and Rome.
- 304-527 Medieval Art 3 Cr.**
The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.
- 304-528 Italian Renaissance Art 3 Cr.**
Architecture, sculpture and painting of the Italian Renaissance from 14th to 17th century.
- 304-529 Northern Renaissance Art 3 Cr.**
Renaissance art in Northern Europe from 15th to 17th century.
- 304-530 Northern Baroque Art 3 Cr.**
Architecture, painting, sculpture and other art forms of 17th century Northern Europe.
- 304-531 Southern Baroque Art 3 Cr.**
Development of art in Southern Europe from Italian Renaissance to 18th century.
- 304-532 Economics of House Furnishing 3 Cr.**
Study of consumer house furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to house furnishing markets. F
- 304-533 Period Furnishings 3 Cr.**
A survey of furniture and furnishings in the western world. F
- 304-534 Fashion Illustration 3 Cr.**
Problems in graphic techniques, fashion illustration, contemporary fashion design and advertising presentation. Prerequisite: 304-101. F-W
- 304-545 Senior Seminar 1 Cr.**
Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Prerequisite: Senior standing in program. S
- 304-556 Advanced Art Workshop 1-3 Cr.**
Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract. Prerequisite: consent of instructor. Repeatable for credit.
- 304-590 A Design Problem: Team Approach 3 Cr.**
Interdisciplinary team approach to design concepts solving specific problems. Results represented by working prototype. Prerequisite: advanced level in individual students to be selected by instructor. Repeatable for credit. F-W-S
- 304-602 American Art 3 Cr.**
Development of visual arts in the United States from colonial period to 1950.
- 304-603 19th Century Art in Europe 3 Cr.**
History of European art from about 1800 to 1900.
- 304-604 Art Since 1950 3 Cr.**
Developments in painting and sculpture in Europe and America since 1950.
- 304-606 Oriental Art 3 Cr.**
Art from prehistoric times to 19th century in China, Japan and their spheres of influence.
- 304-607 Aesthetics 3 Cr.**
Examination of the philosophers of contending theories in art. Prerequisite: 304-522. F-W

Biology

308-506 Food Microbiology 3 Cr.

Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms. Prerequisite: 308-306. F-W

308-650 Neuroanatomy 2 Cr.

Cross and functional anatomy of the human nervous system with emphasis on the brain and autonomic division. F

308-651 Psychobiology 2 Cr.

Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment. W

Chemistry

311-501 Physical Chemistry Lecture 3 Cr.

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with 311-503. Recommended: 311-531. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156. F-W

311-503 Physical Chemistry Laboratory 1 Cr.

Lab course to be taken concurrently with 311-501. Experimental techniques and apparatus; treatment of experimental data. Recommended: 311-531. Special course fee. Prerequisites: 311-115 or 311-125 or 311-135 and 355-156.

311-511 Biochemistry 4 Cr.

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures. Special course fee. Prerequisites: 308-132 and 311-201. F-W

311-515 Food Chemistry 3 Cr.

Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (*Maillard-Browning reaction*), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods. Special course fee. Prerequisites: 311-115 or 311-125 or 311-135, 311-201 and 311-203. W

311-531 Quantitative Analysis 3 Cr.

Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. Special course fee. Prerequisite: 311-115 or 311-135. F

311-535 Instrumental Methods of Analysis 3 Cr.

Application of instrumental methods to chemical analysis: electrochemical, spectral; applications of common instrumental methods. Techniques for obtaining reliable results by instrumental means. Recommended: 311-531. Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. W

311-541 Chemistry of Materials 3 Cr.

Practical applications of principles and facts of chemistry to technological problems: structure and properties of common materials; fuels (*solid, liquid, gaseous, fossil, nuclear*) and air pollution; water (*domestic, industrial, sewage*) and water pollution; electrical properties (*cells, batteries, fuel cells, electrolysis*) and corrosion of metals; protective coatings (*paints, varnishes, enamels, lacquers, plating, anodizing, cladding*). Special course fee. Prerequisite: 311-115 or 311-125 or 311-135. F-W

311-553 Environmental Chemistry 3 Cr.

Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution and/or are of current importance; chemical technology needed to correct imbalance. Special course fee. Prerequisite: 311-115 or high school chemistry and consent of instructor. F-W

311-612 Advanced Biochemistry 3 Cr.

Molecular biology of humans and other organisms; biosynthesis and catabolism, emphasizing enzyme action; chemistry of specific tissues and fluids. Prerequisites: 311-201, 311-203 and 311-511. F-W

Industrial Hygiene

312-542 Industrial Hygiene 3 Cr.

Principles and techniques for recognizing, evaluating and controlling existing or potential occupational health hazards that affect employee safety and health. Prerequisite: 311-115 or consent of instructor.

312-652 Hazardous Waste Management 3 Cr.

Management of hazardous wastes; compliance with governmental regulations in recognition, storage, shipping and reporting of hazardous wastes. Special course fee. Prerequisite: 311-115. F-W-S

312-710 Industrial Hygiene Instrumentation 2 Cr.

Work place environment analysis by direct reading and integrated sampling techniques. Special course fee. Prerequisites: 311-542, consent of instructor F-W-S

312-762 Industrial Hygiene Ventilation and Noise Control 3 Cr.

Evaluation and testing of contaminant control ventilation systems for removal of toxic gases, vapors, and particulates from work environments. Evaluation of noise exposures and application of noise control methods to reduce worker exposures. Special course fee. Prerequisites: 312-542 and 170-372 or consent of instructor. W

Economics

320-680 International Trade 3 Cr.

Theory and practice of capital movements; foreign exchange rates and controls; balance of payments; tariffs. F-W

English and Journalism

326-500 Literature for the Reading Child and Adolescent 3 Cr.

Critical survey of literature for children (*age 8 to beginning to read adult literature*); adolescent literature and media presentations of literature. Prerequisite: 326-102 or 326-112. W

326-505 American Regionalism 3 Cr.

American regional literature since 1880: the regions themselves and American perceptions of those regions. Prerequisite: 326-102 or 326-112. F-W-S

326-515 Technical Writing 3 Cr.

On-the-job writing for business and industry; reports, letters and other documents. Prerequisites: 326-102 or 326-112 and junior standing. F-W-S

326-525 Writing Technical Articles 3 Cr.

Experience in writing technical articles; requirements for publication in professional media. Research, write and submit individual projects of suitable length and maturity connected with area of specialization. Prerequisites: 326-515 and 326-516 or consent of instructor.

326-535 Writing Technical Manuals 3 Cr.

Production of a technical manual—planning procedure, collecting information, analyzing audience, writing and field testing. Prerequisites: 326-101, 326-102, 326-515 or 326-516 or consent of instructor. F-W-S

326-537 Technical Writing Practicum 1-3 Cr.

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs and methods of producing the final document. Prerequisite: 326-515 or 326-516 or equivalent and consent of instructor. Repeatable for credit. F-W-S

326-546 Research Reporting 3 Cr.

Effective organization and presentation of individual research. Prerequisites: 326-102, 326-112. F

Applied Mathematics

354-530 Statistical Methods 3 Cr.

Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. Prerequisites: 355-120, or equivalent and three years of high school math. F-W-S

354-531 Design of Experiments I 2 Cr.

Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs. Prerequisite: 354-332 or consent of instructor. F

354-532 Design of Experiments II 2 Cr.

Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Prerequisite: 354-531. W

354-535 Applied Stochastic Processes I 2 Cr.

Stochastic processes, Markov chains, stationary distributions, construction of Markov processes, Poisson and birth and death processes, review of statistical inference as applied to these processes. Prerequisites: 354-332 or 354-530 and consent of instructor.

354-536 Applied Stochastic Processes II 2 Cr.

Application of topics introduced in 354-535: theory of reliability; branching, social and behavioral, and queueing processes. Prerequisite: 354-535.

354-545 Image Processing 3 Cr.

Theory and applications of digital image processing. Mathematical foundations and algorithms for enhancement, restoration, compression, segmentation and reconstruction from projections. Prerequisites: 355-255 and 355-275 and 354-341 and 354-332, or consent of instructor. W-CB

354-590 Topics 1-3 Cr.

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. S

354-598 Computer Science Field Experience 2 Cr.

Off-campus work and study in approved position to better understand challenges and potentials of various careers related to computers. F-W

354-698 Computer Science Field Experience 2 Cr.

Off-campus work and study in approved position to better understand challenges and potentials of various careers related to computers. F-W

354-741 Computer Programming Techniques 2 Cr.

Introduction to computer systems and their utilization. Emphasis on translating language with application to individual research projects, statistical or developmental. Not open to students who have completed 354-141. Prerequisite: graduate standing. F-W-S

354-798 Computer Science Field Experience 2 Cr.

Off-campus work and study in approved position to better understand challenges and potentials of various careers related to computers. F-W

Philosophy

365-510 Philosophy Seminar 2-4 Cr.

Selected topics in philosophy including works of individual philosophers, thematic problems in history of philosophy, issues in contemporary philosophy, or relations of philosophy to contemporary problems in other areas. Prerequisites: consent of instructor and basic course in philosophy, logic or ethics. Repeatable for credit.

Physics

372-519 Advanced Microprocessor Laboratory 3 Cr.

Advanced project: design, construction and troubleshooting of a functioning microprocessor system. Prerequisites: 372-518 and consent of instructor.

372-527 Solid State Physics 3 Cr.

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids. Prerequisites: 372-282 or 372-242 and 355-157 or 355-154. W

372-529 Atomic and Nuclear Physics 3 Cr.

Elements of atomic and nuclear physics. Prerequisites: 372-223 and 355-153. F

372-531 Statics 3 Cr.

Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures. Prerequisites: 354-141, 355-153 and 372-221. F

372-533 Dynamics 3 Cr.

Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Prerequisite: 372-531. W

372-535 Optics 3 Cr.

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography. Prerequisites: 372-223, one year of calculus. W

Political Science

375-510 Public Policy Analysis 3 Cr.

Analysis of origins of public policy and policy-making process. Specific case studies of public policy. Prerequisite: 375-210 or consent of instructor. W

375-550 Politics and Technology 3 Cr.

Contemporary and future technological innovations; relationship between political institutions and promotion, regulation and impact of industry and technology in the United States and other selected countries. Prerequisite: junior standing or senior standing. F

Sociology

387-515 Criminology 3 Cr.

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system. Prerequisite: 387-110. W

387-525 Sociology of Leisure 3 Cr.

Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources. Prerequisite: 387-110. W

387-530 Sociology of the Community 3 Cr.

Community structure, chiefly in the United States; variability and current trends, research techniques, community development. Prerequisite: 387-110. F-W

387-540 Sociology of Work 3 Cr.

Human behavior in various types of employment and occupations; trends in U.S. occupational structure. Prerequisite: 387-110. F-W

387-550 Sociology of Technology 3 Cr.

Relationships between technology and social structure with emphasis on future projections. Prerequisite: 387-110. F-W-S

387-560 Sociology of Juvenile Delinquency 3 Cr.

Definitions of and trends in deviant behavior among youth; research findings; efforts in prevention, control and treatment. Prerequisite: 387-110. F-W

387-575 Sociology of Minority Groups 3 Cr.

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States. Prerequisite: 387-110. W

387-710 Sociological Foundations for Guidance 3 Cr.

A sociological perspective will be briefly introduced (or reintroduced), applied to an examination of certain problems of modern society relevant to the practice of the guidance counselor, and finally, directed to an analysis of the social role of the guidance counselor. S

Speech

391-508 Speech Skills for Business and Industry 2 Cr.

Technical speaking; projects in application of speech skills and activities in business and industry. Prerequisites: 391-100 and junior standing. F-W-S

391-512 Speech Skills for Educators 2 Cr.

Application of leadership techniques and speech skills in classroom and educational activities; two-way communication as aspect of classroom climate. Prerequisites: 391-100 and junior standing. F-W-S

391-514 Interviewing 1 Cr.

Principles and techniques for interviewee in employment interviews. Prerequisite: 391-100. F-W

391-554 Television Programming and Performance 3 Cr.

Planning, writing and performing instructional, public service, special feature or dramatic television programs. Prerequisites: 391-100 and junior standing or consent of instructor. F-W

Counseling

413-501 Introduction to Guidance 2 Cr.

Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors. F-W-S

413-571 The Psychology of Marriage and the Family 2 Cr.

A study of the interpersonal relations involved in dating, mating and family collaboration with growing awareness of patterns for self-integration. F-W

413-600 Workshop: Counseling/Psychological Services 1-3 Cr.

Current specialized topics studied through experiential activities. Prerequisite: consent of instructor. Repeatable for credit. F-S

413-600A Workshop: Counseling/Psychological Services 1-3 Cr.

Current specialized topics studied through experiential activities. Continuation of course 413-600. Repeatable for credit. F-S

413-600B Workshop: Counseling/Psychological Services 1-3 Cr.

Current specialized topics studied through experiential activities. Continuation of course 413-600. Repeatable for credit. F-S

413-629 Guidance in the Elementary School 2 Cr.

Nature and conditions of guidance in elementary schools; curricular and non-curricular guidance techniques, referrals, parent counseling; guidance principles and practices applied to elementary school child. W-S

413-634 Technical/Vocational Education Student 2 Cr.

Characteristics of vocational/technical student affecting social, physical, emotional and intellectual development in adolescent-to-young-adult transition; implications for guidance, counseling and vocational education. F-W

413-647 Behavior Problems of Children 2 Cr.

Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children. Prerequisite: consent of instructor. W-S

413-650 Behavior Problems of Adolescents 2 Cr.

Behavior problems of contemporary American adolescents; identification, etiology, intervention and prevention; guidance techniques and processes for teachers, counselors, school psychologists, social service and child care workers, and parents.

413-666 Alcoholism and Family Systems Intervention 2 Cr.

The role of alcoholism in the family and how to intervene therapeutically. W-S

413-675 Counseling Theory 2 Cr.

Theoretical approaches to counseling: psychoanalytic adaptations, behaviorism, trait-factor, client-centered and others; nature of man, underlying personality theory, goals of counseling, role of counselor and illustrative practical applications in each approach; develop beginning personal theory of counseling. Prerequisite: 413-501. F-W-S

413-694 Counseling Older Persons 2-3 Cr.

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences. W

413-700 Seminar in Counseling and Psychological Services 1-3 Cr.

Special topics on current developments in the field. Each seminar is devoted to a specific development to be indicated with a subtitle and description. Prerequisite: consent of instructor. Repeatable for credit. S

413-700A Seminar in Counseling and Psychological Services 1-3 Cr.

Special topics on current developments in the field. Each seminar is devoted to a specific development to be indicated with a subtitle and description. Prerequisite: consent of instructor. Repeatable for credit. S

413-705 Play Therapy 2 Cr.

A survey and study of play therapeutic techniques. Observation and supervised experiences. Prerequisites: 479-730, 479-760. F-W-S

413-715 Orientation to Mental Health Counseling 1 Cr.

Orientation to Wisconsin mental health system, Chapter 51.42, and to the role and function of mental health counselors. Counseling services for mentally ill, alcohol and drug abusers, and developmentally disabled will be discussed. F

413-718 Shame, Addiction and Substance Abuse 3 Cr.

Exploration of the central role of shame in the process of addiction. Relationship between physiological and psychological affects of substances and the "shame based" person on addictions. Implications for treatment. Prerequisite: 459-520 or consent of instructor. F

413-721 Alcohol and Drug Abuse Treatment Programs 3 Cr.

Psychological factors in alcohol and drug abuse. Treatment programs and approaches used by alcohol and drug abuse counselors. Prerequisites: 184-574, concurrent registration or consent of instructor. W

413-725 Counseling with Special Populations 3 Cr.

Overview of specialized counseling needs in special populations such as ethnic minorities, women and men in transition, chronically ill, job displaced, and strategies for counseling these populations. F

413-731 Problems in Counseling and Psychological Services 2 Cr.

Plan B investigations are the primary purpose of this course. Students who are ready to write their Plan B paper should register for this course and then confer with the major adviser to select a staff member who will serve as an investigation adviser. Meetings with the adviser are by arrangement only. Prerequisite: consent of instructor or 12 hours of graduate credit in an appropriate program sequence, including 421-740. F-W-S

413-733 Career Development Process and Issues 2 Cr.

Career development concepts, theories and related social issues that affect people's career choices. F-S

413-733A Career Information Laboratory 1 Cr.

Laboratory experience with print and non-print occupational, educational and personal information; assessment instruments; and instrument and program evaluation techniques. Prerequisite: 413-733 or concurrent registration. F-S

413-744 Psychometric Aids to Marriage and Family Therapy 2 Cr.

Instruction and practice in the administration and interpretation of tests appropriate for this area. Practice in treatment application of test results. Prerequisite: 489-753. F

413-752 Group Dynamics 2 Cr.

A study of group approaches for providing guidance services to pupils. Designed to help counselors and teacher-counselors understand how groups may be used as a setting for guidance and counseling. Prerequisites: 413-501, 413-675. F-W-S

413-760 Theories and Techniques of Behavior Modification 2 Cr.

Theoretical and empirical bases for utilizing behavior modification procedures in schools, clinics and other institutions. Emphasizes role of behavioral consultant. Prerequisite: 479-530 or 479-730, or equivalent. W

413-763 Marriage and Family Therapy Prepracticum Seminar 1 Cr.

An introduction to the clinical practice of marital and family therapy in a state certified outpatient mental health/alcohol and other drug abuse clinic. Preparation for delivery of clinical services to couples and families and clinic management. Prerequisite: admission to the M.S. in Marriage and Family Therapy program.

413-765 Organization and Administration of Guidance 3 Cr.

Organizational and administrative techniques for providing effective school guidance services in kindergarten to post-secondary programs. Prerequisite: 413-675. W-S

413-768 Mediation in Custody Conflict Resolution 2 Cr.

Philosophy, goals and procedures of family mediation as a conflict resolution procedure. F-W-S

413-770 Thesis 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740, approval of major director. Repeatable for credit. F-W-S

413-775 Alcohol and Drug Abuse Counseling Practicum I 8 Cr.

Counseling under supervision in an alcohol and drug abuse treatment facility. Laboratory instruction on various aspects of alcohol and drug abuse treatment approaches. Prerequisites: 413-788, 413-721 and admission to alcohol and drug abuse counseling concentration. F

413-776 Alcohol and Drug Abuse Counseling Practicum II 8 Cr.

A continuation of Alcohol and Drug Abuse Counseling Practicum I. Students will continue a supervised counseling experience in an appropriate treatment facility and related laboratory instruction. Prerequisite: 413-775. W

413-785 Seminar in Hypnosis 2 Cr.

Historical and present trends, myths/misconceptions, experimentation, research and counseling/therapeutic uses and misuses of hypnosis and related techniques. Prerequisites: consent of instructor and advanced graduate standing.

413-787 Career Placement Services 1-3 Cr.

Development of a community/school-based placement system for schools, post-secondary schools, and/or agencies. May be taken for 1-3 credits and may be repeated once with consent of instructor, if taken for less than 3 credits. W-S

413-788 Counseling Process Laboratory 3 Cr.

Basic attending and influencing skills used in the one-to-one and one-to-group situations involving laboratory experiences, such as counseling, feedback, critiquing, modeling, assessing and evaluating. F-W-S

413-790 Supervised Counseling Practicum 3-6 Cr.

A minimum of 120 hours of closely supervised counseling experience through a series of interviews with selected counselees. Prerequisite: consent of instructor. F-W

413-791 Internship in Guidance and Counseling 8 Cr.

The student will devote a minimum of 360 clock hours, full-time (*each quarter*) in a local school serving as a school counselor. In this experience, they will be supervised by university personnel and work with a fully certified local school counselor. Experiences include all aspects of the guidance function. Repeatable for credit. F-W

413-793 Marriage and Family Therapy Practicum 4 Cr.

Preparation for professional marriage and family counseling services through seminar discussions, observation and supervised counseling experience. Prerequisites: 212-793, concurrent registration, personal screening and approval by instructor or admission without deficiency to the M.S. in Marriage and Family Therapy program; commitment to the second semester sequel; enrollment in 413-794 and 212-794. F

413-794 Marriage and Family Therapy Practicum 4 Cr.

Sequel to 413-793. Continuing preparation for professional marriage and family counseling services through seminar discussions, observation and supervised counseling. Prerequisites: 212-793 and 413-793, 212-794, concurrent registration. W

413-795 Marriage and Family Therapy Practicum 1-2 Cr.

The study and application of family theory in a clinical setting. Prerequisite: acceptance into the M.S. in Marriage and Family Therapy program or consent of the program director. S

413-800 Field Study 2-6 Cr.

Experience in action-type field research in pupil personnel services. The student will identify and research a topic directly related to his career position. Preparation and presentation of a formal report of the study to appropriate personnel. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Repeatable for credit. F-W-S

413-890 Multiple Counseling and Sensitivity Training 2 Cr.

A laboratory experience in the analysis and application of group dynamics and group behavior as related to attitude and behavior change. The origin of conflict, cooperation and misunderstanding within groups. Developing insight and sensitivity towards the student's own attitudes towards other people and their own motivation and value systems in human relations. Prerequisite: advanced graduate standing.

413-892 Advanced Counseling Practicum 2 Cr.

Clinical supervised counseling experiences in a variety of school institutional and agency settings. Designed to assist the student to more adequately understand and apply the dynamics of human behavior in the one-to-one counseling relationship. A minimum of 60 to 90 clock hours of experience is required. Prerequisite: 413-790. Repeatable for credit. F-W-S

413-895 Supervision of Counselors and Counseling 2 Cr.

Practical applied experiences in the supervision of counseling and counselors; investigation, analysis and application of the psychology of learning and helping as the supervisor assists other personnel services staff in their professional and personal growth and development. Prerequisite: 413-790.

Education

421-502 Global Perspectives for Educators 3 Cr.

Primarily for education students interested in introducing global perspectives into the classroom. The methodology, materials and instructional strategies necessary for effective implementation of global education in schools and individual classrooms will be covered. F-W

421-536 Multiculturalism: Issues and Perspectives 2 Cr.

Intensive study of diversity in U.S. schools. Examination of the educational needs of students from various ethnic, cultural, religious, language and social class groups. Discussion of issues related to racism, sexism and oppression. Prerequisite: 421-205. F-W-S

421-574 Clinical Field Experience—Mentoring 1-2 Cr.

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of high ability students. Emphasis is on critical thinking, problem-solving skills and creative expression. Prerequisite: 431-595 or consent of instructor. F-W-S

421-576 Field Experience—Cross Cultural Experience 1 Cr.

Supervised one-on-one or small group experience in a school or other setting in response to a special academic or social need with representatives of one or more of the following designated ethnic minority groups—African-Americans, Asian-Americans, Pacific Islander-Americans, American Indians and Hispanic-Americans; and various socio-economic groups, specifically the low-income. Prerequisite: 421-536 or consent of instructor. F-W-S

421-582 Secondary Reading and Language Development 2 Cr.

Effective utilization of reading and language development methodologies in secondary content area classrooms. Prerequisite: 421-303. F-W-S

421-600 Workshop—Special Topics in Education 1-3 Cr.

Current specialized topics studied through experimental activities. Prerequisite: consent of instructor. Repeatable for credit.

421-615 Educating At-Risk Students 2 Cr.

Characteristics, needs, assessment procedures, alternative curricula and methods, intervention, and management strategies for at-risk students.

421-641 Education Evaluation 2 Cr.

Testing, the interpretation of tests by means of simple statistical procedures; methods of evaluating educational programs.

421-683 Seminar in Reading Methods for Secondary Schools 1 Cr.

Selection, research and presentation for discussion of topics related to reading in secondary schools. Prerequisite: 421-682. F-W-S

421-690 Learning Style Theory and Application 2 Cr.

An introduction to the educational sciences, including cognitive mapping. Emphasis is placed on the practical application of the educational sciences in an educational setting. Prerequisite: junior standing.

421-700 Philosophy of Modern Education 2 Cr.

A comparative study of the main schools of educational philosophy and of their influence in contemporary education, thought, and practice, points of agreement and of conflict.

421-702 Principles of Supervision 2-3 Cr.

Basic principles, types, functions, organizations and plans of supervision. Interpretation and application of creative supervision plans; individual and class projects concerned with applied methods of supervision in selected educational areas. W-S

421-705 Social Thought of American Educators 2 Cr.

The school as a social institution within American democracy. Contributions of the past to education and current philosophies. Historical review, evaluation and consideration of the public school as a social institution.

421-712 Analysis of Teaching Behavior 2 Cr.

Principles and strategies for analyzing teaching behavior in which strengths, desired improvements and a professional development plan are identified.

421-714 Teaching Strategies 4 Cr.

Intensive study and practice in mediating the learning process. Focus on the individual teacher and his active role as an instrument which can bring about predictable changes in student cognitive behavior. Minor consideration given to affective and psychomotor behavior. Lecture, discussion and micro-teaching. F-W-S

421-720 Instructional Processes 3 Cr.

Examine processes utilized in instruction in various content areas. Focuses on methods and techniques for teaching thinking (*reasoning*), problem-solving, decision-making and valuing skills. Examines social methods of learning with emphasis on cooperative learning.

421-726 Administration 2-3 Cr.

Philosophy and principles underlying organization and operation of public education on the local, state and national levels in the United States. Examinations of prevailing practices and current problems of school management.

421-727 Supervision of Student Teachers 2 Cr.

Purpose and philosophy of supervision, the role of the cadet center in preparing teachers, relationships and responsibilities of persons involved, orientation, guidance, and evaluation of student teachers. F-W-S

421-729 Introduction to Educational Research 1 Cr.

Overview of educational research; identification of research topics and development of a research proposal. F-W-S

421-738 Elementary School Curriculum 2-3 Cr.

A study of the social, psychological, cultural, economic and educational forces operating to bring about changes in the curriculum of the elementary school, K-8. Outstanding state and local curriculum construction programs. Observation and evaluation of the modern elementary school curriculum trends and innovations. Review of curriculum development. F-W-S

421-739 High School Curriculum 2 Cr.

A study of the social, psychological, cultural, economic and educational forces operating to bring about changes in the curriculum of the secondary school. Outstanding state and local curriculum construction programs. Observation and evaluation of the modern high school curriculum, trends and innovations. Review of curriculum development. F-W-S

421-740 Research Foundations 4 Cr.

This course serves as an introduction to basic concepts and principles in educational research. The course utilizes mastery grading and elements of individualized instruction. The course functions to help prepare the student for his own graduate research experiences and also to prepare him to be an articulate consumer of research upon completion of the course. Prerequisite: graduate standing or consent of instructor. F-W-S

421-742 Program Evaluation 3 Cr.

Surveys theory and practice of evaluating the effectiveness of a variety of human-service delivering systems, including education. Develops applied competencies in analyzing values and needs of decision makers and articulation and assessment of program objectives (*both process and product*). Emphasis on building efficient, ongoing evaluation systems.

421-744 Seminars in Education 1-3 Cr.

Special topics on current developments in the field. Each seminar devoted to a specific development to be indicated with a subtitle and description. Repeatable for credit. F-W-S

421-750 Curriculum Theory and Practice 2-3 Cr.

A study of curriculum theory and its application. An analysis and development of a rationale, writing educational objectives, identifying a body of knowledge, specifying methodology, and conducting curriculum evaluation. F-W-S

421-765 Problems in Education 2 Cr.

Identification, selection and completion of a research problem in education culminating in a Plan B research paper. Prerequisites: 421-740, approval of program director. F-W-S

421-770 Thesis 6 Cr.

Independent research under direction of investigation adviser. Selection of problem, review of literature, planning and conducting research, interpretation of findings and preparation of final paper according to thesis standards. Student may enroll for two, four or six semester hours of credit in various terms for a final total of six. Prerequisites: 421-740, approval of program director. F-W-S

421-811 Structuring Knowledge 2 Cr.

Study of methods for structuring knowledge. Relationships between the structure and its application. Structure of knowledge, discipline and curriculum relationships. Prerequisite: acceptance in educational specialist program.

421-816 Instrumentation for Research 3 Cr.

Basic concepts in the areas of validity and reliability will be studied and applied to the design of instruments. Emphasis will be placed on conceptualizing the constructs or characteristics to be measured. Techniques of item writing, item analysis, determining reliability and scaling will be covered, including such ideas as a quiescent set, item difficulty and discrimination. The student will engage in the study of procedures and techniques for gathering, analyzing, and reporting data and findings as applied to his proposed field study.

421-890 Field Study in Professional Education 2-6 Cr.

Supervised study which provides the graduate student with the opportunity to: (1) explore in-depth the body of knowledge associated with a selected problem in professional education, (2) provide an educational experience for implementing this knowledge into a selected institutional setting, and (3) devise methods to determine if the implementation is or will be successful. Prerequisite: approval of the director of the major. *F-W-S*

Special Education**431-501 Learning Disabilities 3 Cr.**

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults. *W*

431-515 Vocational Programs for Special Needs Teachers 2 Cr.

Philosophy, historical; judicial development and administrative structure of vocational education related to special education at the federal, state and local levels. Special needs instructors are provided thorough understanding of the vocational system, stressing training programs within the career clusters, with direct application to special needs learners. Prerequisites: 431-532, consent of instructor.

431-516 Psychology of the Exceptional Child 2-3 Cr.

History and treatment of exceptional individuals; characteristics and development of children who deviate from the norm: learning disabled, gifted, mentally retarded, socially and emotionally disturbed, abused, speech and language impaired, and those with visual, hearing, orthopedic and chronic health problems. *F-W*

431-518 Clinical Experience with the Handicapped 2 Cr.

Tutor a handicapped individual in an on-campus or educational setting. To be taken concurrently with 431-561. *F-W-S*

431-522 Teaching Basic Skills to the Mentally Retarded 3 Cr.

Curriculum and instructional techniques for developing basic academic and functional living skills for mild/moderate mentally retarded youth. Prerequisites: 431-585, 421-304 or consent of instructor. *W*

431-524 Career and Vocational Education for the Retarded 3 Cr.

Curriculum and instruction for mentally retarded learners in prevocational career, and vocational education stressing interdisciplinary cooperation. Prerequisites: 431-585, 421-304 or consent of instructor. *F*

431-526 Practicum in Special Education 2 Cr.

Off-campus work and study in educational settings with handicapped youth. To be taken concurrently with 431-661. Prerequisites: 431-516 and 431-518. *F*

431-528 Assessment for Individual Educational Planning 2 Cr.

Diagnosing behavior and learning problems of mentally handicapped and other special needs learners, including the culturally diverse. Preparing individual educational plans based on comprehensive assessments. *F-W-S*

431-581 Legal Rights of Handicapped 2 Cr.

Current litigation, civil commitment, criminal proceedings, federal and state statutes, and civil rights regarding the handicapped student and adult. Prerequisite: 431-532. *W*

431-585 Introduction to Mental Retardation 2 Cr.

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons. *F*

431-595 Introduction to Gifted Education 2 Cr.

Characteristics of gifted, creative and talented individuals; identification in educational settings; social, psychological and educational aspects of providing for the gifted throughout school years. *S*

431-597 Field Experience in Gifted Education 4 Cr.

Off-campus experience in gifted student programming in schools, parent organizations, private organizations, extracurricular organizations, or State and Federal agencies. Prerequisite: 431-595.

431-600 Workshop: Topics in Special Education 1-3 Cr.

Current specialized topics studied through experiential activities. Prerequisite: consent of instructor. *S*

431-601 Identification of the Gifted 2 Cr.

Examines characteristics of, and methods for the identification of, gifted and/or creative students. Prerequisite: 431-595. *F-W-S*

431-602 Psychosocial Education of the Gifted 2 Cr.

Examination of psychosocial characteristics, needs and problems as manifested by high-ability students and consideration of strategies appropriate for enhancing mental health in the gifted and talented in the school setting. Prerequisite: 431-595. *F-W-S*

431-605 Curriculum Development for the Gifted 2 Cr.

General principles of curriculum development for the gifted. Procedures and suggestions for developing an original program. Guidelines for meeting the needs of special populations of gifted. Teaching/learning strategies used in gifted education. Prerequisite: 431-595 or consent of instructor. *F-W-S*

431-630 Mainstreaming Special Students 3 Cr.

Learning characteristics and behavior of mentally retarded, learning disabled, socially and emotionally disturbed, hearing and sight impaired, orthopedically and chronic health impaired, speech and language impaired students; services mandated by PL94-142, M-team process, and individualized educational plan; instruction of handicapped within regular classes. *F-W-S*

431-662 Classroom Management Techniques 3 Cr.

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. *W*

431-700 Special Needs Learners in Vocational Education 2 Cr.

Overview of legislation, program models: assessment and instructional practices pertaining to vocational education for handicapped, disadvantaged, and gifted students. Emphasis on services provided to special needs learners within regular class. *S*

431-725 Programming for Vocational Special Needs 2 Cr.

Typical and alternative vocational programming for special needs students. Appropriate management strategies for the various program types. *S*

431-790 Special Education Seminar 1-3 Cr.

Special topics designed to upgrade the competencies and knowledge of participants on current developments in the field. Content will change to reflect the state of the art in special education. Repeatable for credit. *F-W-S*

Vocational Rehabilitation**459-500 Special Topics in Rehabilitation 1-2 Cr.**

Special topics not available through regular courses. Prerequisite: consent of instructor. Repeatable for credit. *F-W-S*

459-500A Applied Biofeedback in Rehabilitation 1 Cr. S**459-500B Juvenile Use/Abuse of Alcohol and Other Drugs 2 Cr. S****459-500E Program Evaluation in Rehabilitation 1 Cr. S****459-500F Disability Awareness 1 Cr. S****459-500G Grantsmanship in the Helping Professions 1 Cr. S**

459-500H Symposium in Rehabilitation Administration 1 Cr. S

459-500N Community-Based Rehabilitation Services 1 Cr.

An examination of national priorities for community-based services designed to enhance competitive employment options for severely disabled persons. *F-W-S*

459-505 Sign Language I 3 Cr.

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication. *F*

459-506 Sign Language II 3 Cr.

Intermediate course in manual communication with persons who are deaf. American Sign Language and increasing sign vocabulary and communication speed. Prerequisite: 459-505. *W*

459-509 Introduction to Biofeedback 3 Cr.

Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience. Prerequisites: and 479-110. *F*

459-510 Clinical Biofeedback Laboratory 3 Cr.

Development of clinical skills and familiarization with laboratory monitoring devices and stress management techniques, as they apply to the training of clients in a clinical biofeedback setting. The course also reviews current clinical research, future directions for the field and ethical considerations. Prerequisites: 308-220, 413-405, 459-509 and consent of instructor. *W*

459-520 Rehabilitation and Chemical Dependency 3 Cr.

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage. *F*

459-525 Rehabilitation of Public Offenders 3 Cr.

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system. *W*

459-550 Independent Living 2 Cr.

An overview of independent living programs in this country including evolution, goals, methods of service delivery and management of the Independent Living Program. *W*

459-555 Rehabilitation of the Older Disabled Worker 2 Cr.

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability. *W*

459-558 Rehabilitation Support System Networking 2 Cr.

Services, eligibility and appeals process of agencies and community organizations that create formal support systems for persons with special needs; the role of interagency collaboration, informal networks and coalitions that create advocacy channels. *F*

459-560 Technological Applications: Rehabilitation Services 2 Cr.

Applications of technology to assist persons with disabilities in vocational and independent living situations using rehabilitation engineering principles/processes. Review of commercially available aids and assistive devices, and alternative control/interfacing procedures. Introduction to problem solving/design process as related to persons with disabilities. *F-W*

459-565 Laboratory in Rehabilitation Technology 2 Cr.

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/ control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems. Prerequisites: 459-560, 170-202, 170-202 or equivalent, or consent of instructor. *F-W*

459-585 Rehabilitation and Mental Retardation 2 Cr.

Background in mental retardation; vocational evaluation, adult education and adjustment techniques used with adults who are mentally retarded. Special course fee. *F-W*

459-587 Management of Employees with Disabilities 3 Cr.

Orientation to workers with disabilities in business and industry. Focus is upon the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business and rehabilitation community resources, and staff development are emphasized. Prerequisite: junior, senior or graduate standing. *W*

459-598 Field Experience in Rehabilitation 1-2 Cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-101. Repeatable for credit.

459-601 Rehabilitation in the Private Sector 2 Cr.

Introduction to the private-for-profit sector of rehabilitation. Orientation to the contractual services offered by practitioners. Industrial in-plant models will be contrasted to other models for providing rehabilitation services to workers with disabilities. *F*

459-605 Microcomputer Applications in Rehabilitation 2 Cr.

Applications of microcomputer technology and adaptive devices in vocational evaluation, work adjustment, placement and administration. *F-W*

459-610 Psychological Testing—People with Exceptional Need 2 Cr.

Introduction to psychometric tests; administration, interpretation/scoring and applications for persons with exceptional needs. Prerequisite: 459-230. *F-W-S*

459-661 Forensics for the Rehabilitation Professional 2 Cr.

Orientation to terminology and practices associated with private sector rehabilitation. Materials specific to working with insurance/litigation cases. Prerequisite: 308-132. *W*

459-670 Work Adjustment Services 2-3 Cr.

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing. Prerequisite: 459-101 or graduate standing. *F-W-S*

459-680 Principles of Rehabilitation Counseling 3 Cr.

Theory and application of counseling processes in rehabilitation settings. Prerequisite: 479-561 or 431-516. *F-W-S*

459-682 Sexuality and Disability 2 Cr.

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities. *F*

459-685 Group Processes in Rehabilitation Settings 2 Cr.

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group. Prerequisite: 459-680. *W*

459-688 Advanced Job Placement 2 Cr.

Job placement methods for persons with disabilities. Development of Employer Account Systems and the marketing of job placement services. Use of Job Readiness Scales, development of individualized placement plans, and Job Seeking Skills training programs. Current research in job placement will be assigned and discussed. Prerequisite: 459-410 or consent of instructor. *W*

459-698 Field Experience in Rehabilitation 1-2 Cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-101. Repeatable for credit.

459-700 Seminar—Vocational Rehabilitation 1-2 Cr.

A seminar course devoted to the field of vocational rehabilitation and subject materials pertinent to the field. *W*

459-703 Physical Disability and Work 3 Cr.

Study of physical disabilities and the effects of disability upon work-related and independent living functions. Identification of services that might optimize an individual's overall functional capacity. *F*

459-705 Practicum in Rehabilitation Facility Administration 3 Cr.

Practical experience in administration within a rehabilitation facility. Examples of experience will include fiscal and personnel management, contract procurement and production management, staff development, contract negotiations. Prerequisites: graduate standing, consent of instructor, completion of 15 required credits in rehabilitation facility administration concentration. W-S

459-706 Laboratory in Vocational Evaluation 2 Cr.

Laboratory experience in the procedures and specific techniques of vocational evaluation. Special course fee. Prerequisite: concurrent enrollment of completion of 459-723. F-S

459-707 Practicum in Vocational Evaluation 4 Cr.

A supervised experience that integrates vocational evaluation course material. The student will plan, conduct and communicate findings of comprehensive vocational evaluations with consumers who are disabled. Prerequisites: 459-723, 459-610, 459-717 and 459-706, with grade B or better. F-W

459-708 Practicum in Rehabilitation Counseling 3 Cr.

150 hours of supervised clinical experience in a rehabilitation setting. The student will perform entry-level duties of a rehabilitation counselor. Prerequisites: 459-680, with a minimum grade of B. W

459-709 Practicum in Adjustment Services 3 Cr.

A supervised practical experience in adjustment services. Options provided include adjustment services in rehabilitation facilities, independent living settings or community job sites. Prerequisites: 459-670, consent of instructor, 3 credits in 459-670 with a grade of B or better, advanced graduate standing. W

459-717 Occupational Analysis and Information 2 Cr.

Resources and techniques for obtaining relevant information about work requirements and the application of these competencies to vocational rehabilitation services. F

459-723 Procedures of Vocational Evaluation 3 Cr.

A study of the techniques of evaluating the vocational potential of persons with disabilities through a review of related research, theories and models. Development and utilization of evaluation tools, analysis of relevant information for program planning, and communicating significant vocational data is included. F-S

459-737 Rehabilitation and Psychiatric Disability 2 Cr.

Investigate vocational rehabilitation approaches to persons with psychiatric disabilities. Review of personality development and theory. Emphasis on understanding psychiatric disabilities and the process of vocational reorientation. Prerequisite: 479-561 or consent of instructor. W

459-755 Problems in Vocational Rehabilitation 2 Cr.

Identification, selection and completion of a problem in vocational rehabilitation. The problem project will culminate in a Plan B paper. Prerequisite: 421-740. F-W-S

459-770 Thesis—Vocational Rehabilitation 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740, approval of major director. Repeatable for credit.

459-780 Administration in Vocational Rehabilitation 2 Cr.

A lecture course covering the administrative aspects and methods involved in establishing and supervising a vocational evaluation unit or a total rehabilitation facility. Prerequisite: consent of instructor or vocational rehabilitation major. W

459-783 Internship in Vocational Evaluation 6 Cr.

A culminating practical experience of 320 hours in the application of the techniques of vocational evaluation. Prerequisites: 459-707, grade B or better, advanced graduate standing, consent of instructor. W-S

459-785 Internship—Rehabilitation Facility Administration 6 Cr.

Practical administrative experience within a rehabilitation facility. Students will have practical experience in five or more of the following administrative areas—fiscal, personnel, production, marketing, contract procurement, developing grants and fund raising. Prerequisites: 459-705, consent of major director, with minimum grade of B. W-S

459-787 Internship in Rehabilitation Counseling 6 Cr.

The final clinical experience in the Rehabilitation Counseling concentration. 300 hours of on-the-job experience demonstrating competencies associated with professional rehabilitation counseling. Prerequisites: 459-708 and 413-788, both with a minimum grade of B, and consent of instructor. S

459-789 Internship in Adjustment Services 6 Cr.

A culminating practical experience of 320 hours in providing adjustment services. Prerequisites: 459-709, grade B or better, advanced graduate standing, consent of instructor. S

459-798 Field Experience in Rehabilitation 1-2 Cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-101. Repeatable for credit.

Psychology

479-530 Psychology of Learning 3 Cr.

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized. F

479-535 Motivation and Emotion 3 Cr.

An experimentally oriented introduction to the fundamental principles of motivation and emotion. Prerequisites: 479-110, junior standing and nine or more credit hours in psychology, consent of instructor. W

479-540 Psychology of Individual and Group Differences 3 Cr.

Nature and extent of differences in individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied.

479-552 Adolescent Psychology 3 Cr.

The physical, emotional, social, moral and intellectual development of secondary school youth. Prerequisite: 479-110. F-W-S

479-561 Abnormal Psychology 3 Cr.

A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied. F-W-S

479-570 Assertive Training Procedures 2 Cr.

Training in interpersonal behavior and communications in which persons learn to defend their legitimate rights without violating the rights of others. F-W-S

479-571 Introduction to Health Psychology 3 Cr.

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies. Prerequisite: consent of instructor, (usually requires 10 credits in psychology). F

479-574 Psychology of Women 2 Cr.

The myths and stereotypes of early psychoanalytic view of women, critical issues and events of female experience, from prenatal through adulthood; meaning of sexuality, contemporary life styles and the meaning of aging. Prerequisite: 479-110. F-W

479-577 Consumer Psychology 3 Cr.

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology and environmental psychology are applied to the understanding of consumer behavior, consumer problems and their solutions. Prerequisite: 479-110. W

479-579 Public Relations 2 Cr.

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications and special publics. F-W-S

479-581 Industrial Psychology 2 Cr.

A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Prerequisite: 479-110. F-W

479-582 Human Resource Management 3 Cr.

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation. F-W-S

479-598 Psychology Field Experience 2 Cr.

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-601 Workshop—Special Topics in Psychology 1-3 Cr.

Current specialized topics studied in a small group setting utilizing experimental activities. Prerequisite: consent of instructor. Repeatable for credit.

479-603 Management of Employee Reward Systems 3 Cr.

Review of issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits. Psychological theories of motivation, external equity, job analysis, identifying compensable factors used in job evaluation, comparable worth and performance appraisal, individual salary determination. Prerequisite: 479-483 or 479-582. W

479-632 Perception 3 Cr.

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing. F

479-673 Psychology of Stress 2 Cr.

Nature of stress and stress-related diseases, stress in daily life, techniques for managing stress, and plans for reducing stress in personal and professional life. F-W-S

479-675 Right Brain 2 Cr.

The two hemispheres of the human brain. Exploration and experience in right hemisphere modes of consciousness, through techniques such as meditation, hypnosis, drawing, guided imagery and dreaming. W-S

479-679 Advanced Public Relations 2 Cr.

Practice in planning and directing specific public relations programs, using the case problem approach. Prerequisite: 479-579 or consent of instructor. W

479-690 Psychological Measurement 3 Cr.

An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions. W

479-698 Psychology Field Experience 2 Cr.

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-730 Advanced Psychology of Learning 2 Cr.

The theories and principles of learning are studied with emphasis upon totalistic models of classroom learning. F-W-S

479-760 Personality 2 Cr.

The nature of personality and the conditions which make for its wholesome development, its maintenance and integration is studied. Personality inventories used for self-analysis are also studied. W-S

479-775 Employee Assistance and Health Promotion Programs 3 Cr.

Survey of the basic program components, processes and practitioner competencies for developing, implementing, managing and evaluating effective employee assistance and health promotion programs in business, industry and other organizational settings. Prerequisites: 413-675, 489-753, 413-666. W-S

479-777 Employee Assistance and Health Promotion: Practitioner Process Skills 3 Cr.

An overview of the requisite process skills of the employee assistance and health promotion professional including case management, client assessment, crisis intervention, short-term counseling, community referral networks and consultation. Prerequisites: 413-675, 489-753, 413-666, 479-775, 413-788. W-S

479-798 Psychology Field Experience 2 Cr.

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-850 Psychology of Development 3 Cr.

Investigation of individual man, his natures and development, with primary emphasis on the self and implications for education. Study aimed at analysis, synthesis and evaluation levels through seminar approach.

School Psychology

489-601 Brazelton Neonatal Behavioral Assessment 2 Cr.

Philosophy and technique of using the Brazelton Neonatal Behavioral Assessment Scale for evaluating infant personality and development. Prerequisite: consent of instructor.

489-701 Seminar—School Psychological Services 2 Cr.

Introduction to the field of school psychology. Roles and functions of the school psychologist are explored as they relate to Wisconsin and the nation; political and legal implication of these roles are identified. S

489-731 Problems in School Psychology 2 Cr.

Independent investigation into a carefully delineated area of school psychological services in an attempt to bring evidence to bear on a problem. The use of research techniques is required. Reporting of the study is expected to meet the standards appropriate to scholarly writing by professionals in the field. Prerequisite: 421-740. F-W-S

489-743 Advanced Individual Mental Testing 2 Cr.

An experience of supervised practice in the administration, scoring and interpretation of individual tests of mental ability. Emphasis is directed toward the use of such evaluation of intelligence to case history material, the integration of related psychological findings, the determination of prognosis, and planning for the individual client. Prerequisite: 413-741. W

489-745 Assessment of Personality (Projective Techniques) 2 Cr.

History, theory and methodological consideration and studies of projective instruments. Instruction in administration, scoring and interpretation of some currently used devices leading to a knowledgeable understanding of the instruments. Prerequisites: 489-743 and 413-748. S

489-753 Psychometric Theory and Application 2 Cr.

Introduction to psychoeducational theory and concepts in relation to inter- and intra-individual assessment. Covers basic statistics, in regard to test construction, test uses and misuses, test selection, purposes of testing, ethics, basic test interpretation processes, and types of tests and testing programs frequently employed by psychoeducational specialists. F-S

489-753A Lab—Guidance and Counseling Services 1 Cr.

Introduction to basic psychometric materials and techniques employed by counselors. Included are individual inventories, aptitude and achievement tests, problem surveys and other screening devices. F-S

489-753B Lab—School Psychology 1 Cr.

Introduction to basic psychometric materials and techniques employed by school psychologists. Emphasis is placed upon individual mental tests and procedures. F

489-766 Educational Applications of Neuropsychology 2 Cr.

The application of neuropsychological theory and assessment techniques to the education of children who possess cortical damage or dysfunction. Prerequisites: 489-753, 489-753B. S

489-768 Diagnosis and Remediation of Learning Disabilities 2 Cr.

Develops expertise in understanding human information processing, the administration and interpretation of sophisticated psychological diagnostic instruments, and the prescription of appropriate and precise remediation. Current research in learning disabilities is examined and evaluated. Prerequisite: 413-748. W

489-768A Learning Disabilities—Diagnosis and Remediation Lab 1 Cr.

Laboratory experience where administrative and scoring skills are developed in reference to instruments and techniques introduced in 489-768. Prerequisites: 489-743 and 489-768. W

489-770 Thesis 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of major director. Repeatable for credit. F-W-S

489-778 Psychoeducational Disability 3 Cr.

Etiology, characteristics, and Individual Educational Program (IEP) development for children with Exceptional Educational Needs (EEN) such as mental retardation, emotional disturbances, behavioral disorders, social/cultural deviation and multi-handicapping conditions. F

489-781 Field Practicum in Psychoeducational Services I 3 Cr.

Provides the prospective school psychologist with the initial "on site" experience of functioning as a school psychologist. Special educational evaluations, programming and introduction to complex cases and staffings. Prerequisites: 413-743 and 413-748. F-W

489-782 Field Practicum in Psychoeducational Services II 3 Cr.

Provides continuing "on site" experience of functioning as a school psychologist. Increased applications of expanded assessment skills, more complex diagnostic problems, intervention techniques and leadership roles within the placement setting. Prerequisite: 489-781. F-W

489-784 Clinical Practicum in Psychoeducational Services I 2 Cr.

This practicum course is designed to provide more intensive and extensive clinical experiences. Work with preschool children, post-school young adults, school age children and their parents. Special assessment and intervention techniques are emphasized. Prerequisites: 489-743 and 413-748. F-W-S

489-785 Clinical Practicum—Psychoeducational Services II 2 Cr.

Provides integrative learning experiences into the role and style of function appropriate to the individual and the profession. Long term therapeutic contacts are required. Experience in one or more areas of specialization is available. Prerequisite: 489-784. F-W-S

489-792 Internship in School Psychology 8 Cr.

The student will devote a minimum of 360 clock hours, full time (*one quarter*) in supervised internship experiences. The student will be working with a certified school psychologist in local area schools and/or other approved personnel in other approved situations; e.g., a counseling psychologist in the APA-approved University Counseling Center. Prerequisite: completion of the School Psychologist I curriculum. Repeatable for credit.

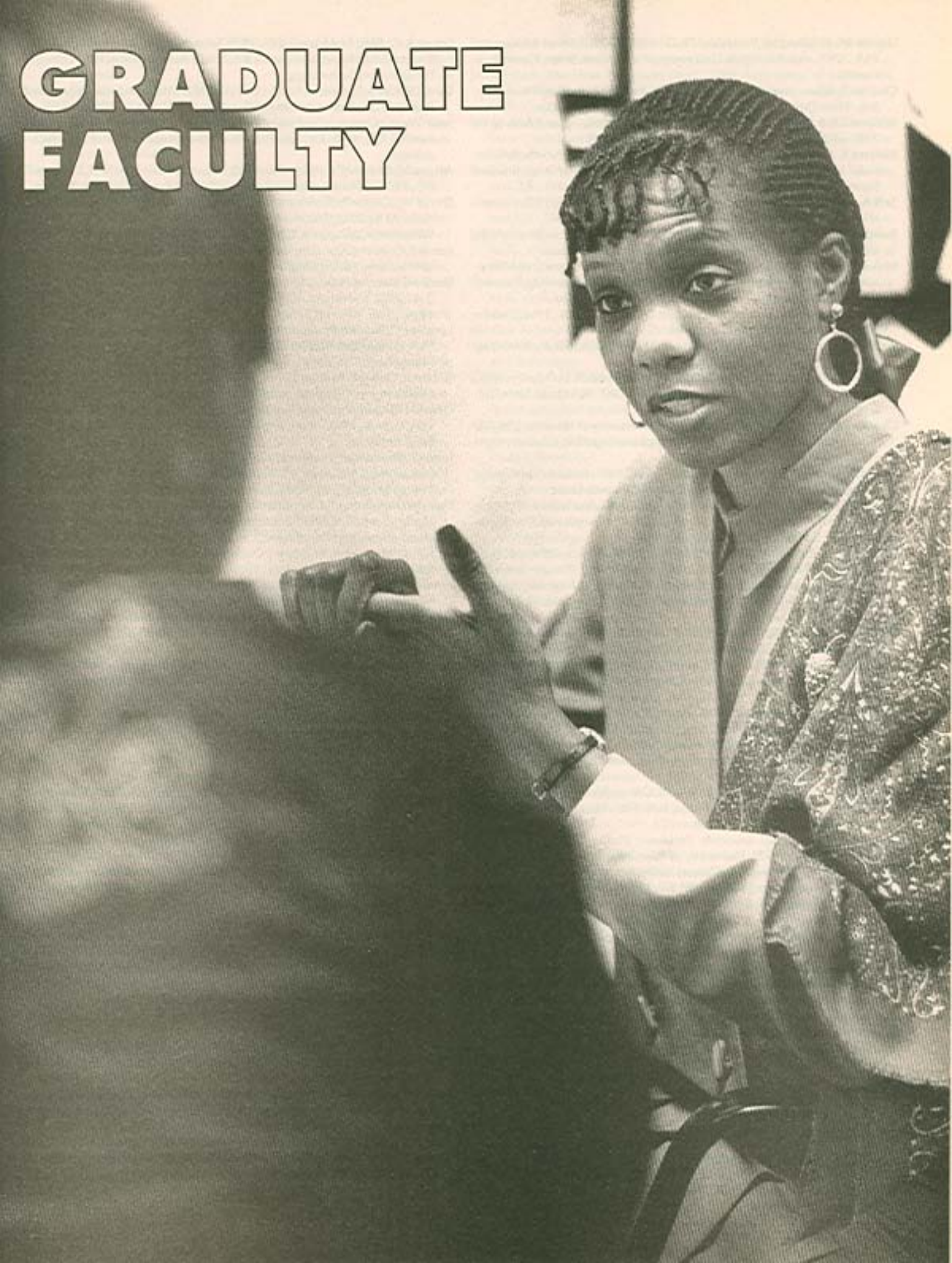
Transdisciplinary**500-735 Investigations 2 Cr.**

A research experience which culminates in a Plan B paper. Prerequisites: 421-740 and admission to degree candidacy. F-W-S

500-770 Thesis 2-6 Cr.

Independent research under direction of investigation adviser. Selection of problems, development of outline, review of literature, compilation of bibliography, plan of method of attack, conduct of research, interpretation of findings, and preparation of the final paper according to thesis standards. Student may enroll for 2, 4, or 6 semester hours of credit in various terms with a final total of six. Prerequisites: 421-740 and approval of graduate program director. Repeatable for credit. F-W-S-CB

GRADUATE FACULTY



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